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A CRITICAL ANALYSIS OF SELECTED ASPECTS OF MUSIC EDUCATION

by

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ABSTRACT

Music educators currently face five major problem areas in the determination of appropriate administrative, pedagogical and research policies and approaches, namely, problems respecting the nature of the musical symbol itself; socio-cultural issues; problems respecting the pedagogical process and its nature; problems in music education research; and the lack of a theoretical base in musical pedagogy.

The writer, therefore, develops three logically distinguishable areas of focus in the analysis, i.e., structural or musical, socio-cultural, and pedagogical. Each of these areas is composed of several assumptive sets. In each case a review of the extant relevant research and/or theoretical formulations precedes an attempt to evaluate these, and where feasible, to offer alternate assumptions, which hopefully will prove more desirable.

Resultant from the analysis are twenty propositions which in turn address the five problem areas in music education which have been identified by the writer.

The study constitutes an attempt to re-evaluate "the present state of the art" of music education. In so doing, it represents a first step in the development of a theoretical formulation which is not only consistent with the evidence from extant research but tends to be internally and logically consistent. Further it is illustrative of attempts to explicate the crucial role of assumptions, for in the explication of assumptions, the roots of action, the logical premises of behaviour are examined and evaluated.

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INTRODUCTION

STATEMENT OF THE PROBLEM

Music educators currently face five major problem areas in the determination of appropriate administrative, pedagogical and research policies and approaches: namely, problems with respect to the nature of the musical symbol itself; socio-cultural issues; problems with respect to the pedagogical process and its nature; problems in music education research; and the lack of a theoretical base in musical pedagogy. It is the writer's intention to briefly review these problem areas, focussing in each case upon various controversial questions which have been raised by researchers and practitioners in the field of music education.

The Nature of the Musical Symbol

As this study is focussed upon the area of musical pedagogy it is of prime importance to examine various problems which emerge in the field of music education by virtue of difficulties arising out of disagreements and misunderstandings of the nature of the musical symbol itself. This is a fundamental consideration. In practise there is a wide variation as to what is regarded as "suitable" music to be incorporated within musical curricula. There are the 'traditionalists' who are oriented to the appreciation of music from the past and who seek to promote only the use of music which is well-established. There are also the 'avant garde' music educators whose orientation in musical

pedagogy is toward the music of the future and the experimental music of the present day. Then there are the 'eclectics' who wish to promote many different types of music ranging from rock music and jazz through folk music to contemporary experimental music and the forms traditionally promoted by music educators. Among and between the members of these several categories of music teachers are those who argue that there is a profound distinction between so-called 'art' music and 'non-art' music and therefore that the range of music taught should only include that music which is considered 'art' music. But no general agreement exists on what kind of music meets which criteria of art. This controversy evidences the fact that the nature of the musical symbol has not been well thought out.

Recently there has been considerable attention devoted to the work of Susanne Langer, especially with respect to her analysis of the nature of music and of the musical symbol. In the wake of a generally accepted view of the validity of her analysis, a number of writers who have claimed to base their work on Langer's thesis have argued that music education is properly described as aesthetic education. A few voices "crying in the wilderness" have attempted to stem the tide of a wholesale acceptance of this viewpoint by pointing to certain weaknesses both in the understanding of the significance of what Langer said, or by noting weaknesses in her analysis. Further, there is some difference of opinion as to the nature of aesthetic education <u>per se</u>. Is the aesthetic response a purely cognitive one? What is the extent of involvement of affective response within a valid aesthetic experience? What is the nature of a <u>valid</u> aesthetic experience? What is an appropriate set of standards for the evaluation of an aesthetic work?

These and many other questions have been posed but answers are left begging.

There is also the related issue of the structural elements of music. Is there a common structure to music, i.e., common to all music irrespective of position in time and space? If there is such a structure, can it be broken down into its component elements, and if so, how? More fundamentally still, should musical pedagogy be concerned with musical structure? There has been wide disagreement on these questions, particularly concerning the extent of the emphasis which should be placed upon musical structure. There are those on the one hand who have argued that there should be relatively little emphasis on musical structure and that a premium should be placed on the "enjoyment" of music. On the other hand, there have been those who have argued that musical structure should constitute the only and entire basis upon which musical pedagogy should rest.

If one examines the music education literature, it is apparent from the sheer volume of space devoted to an examination of problems of measurement and evaluation of various elements of musical experience, aptitudes, and abilities, that there is a wide disagreement among music educators as to the appropriate definitions of various terms and methods of dealing with the empirical realities to which they refer. A number of terms such as 'musicianship' and 'music appreciation' have been widely used and yet remain vague. In consequence, considerable controversy is generated.

In recent years there has been a resurgence of interest in 'creativity'. Teachers attempting to focus upon creativity and to develop courses which they felt would develop 'aesthetic responsiveness'

among their students found that they were teaching for one objective and testing for another. The issue turns on the question of how one measures the quality of an aesthetic response or the quality of a musical performance. The question of standards has therefore become a central one. Where, then, were such standards to be found and how were they to be developed? This question set implies a theoretical base and a clear conceptualization of the terminology being employed. The requisite theoretical base, however, has been lacking. In consequence, there has been a retreat into pragmatics. There have been those teachers who have argued that there is a generally wide gap between educational practise and theory anyway, and so the answer, they claim, clearly lies in finding "what will work in the field" and pursuing that.

It was clear to the writer that a theoretical base is needed which would constitute a consistent point of departure by which questions might be asked and in relation to which answers might eventually be developed with respect to the nature of the musical symbol and musical experience. Hopefully, such a formulation would also yield a unity of thrust within musical pedagogy, both in theory and associated research as well as in music education practise.

Socio-Cultural Issues

A second fundamental set of problems focusses in the area of socio-cultural issues. In fact, it seems quite clear that some of the differences in perspectives within music education have arisen in response to a variety of socio-cultural issues. In recent years in the United States considerable attention has been drawn to the contribution

within American culture of "black" or Afro-American music in response to pressure from those interested in the promotion of the increased incorporation of ethnic music within music curricula. Similarly in Canada there has been a growing concern for the inclusion of Canadian folk music within music curricula in this country and a growing recognition of the contribution of various ethnic groups to the musical heritage of the country. However these materials are not yet widely used within the schools in which the writer has had experience. The issue of whether such a state of affairs is warranted and why, is left begging.

A problem which appears to have been recognized over the past two decades in particular, is that of "youth music". Music educators in the field have experienced difficulties in communicating with youth in terms of the traditional approaches to music repertoire and instructional methods. Teachers have recognized the existence of influences on youth tastes in music which have arisen outside the classroom and which they have found difficult to counteract. Other environmental influences, therefore, have had a tremendous impact on music education.

Another associated problem is the question of 'musical taste' itself and the derivative problem of changes over space and time in accepted views as to what should be taught. How are changes in musical taste most readily effected? Which agencies are most effectual in the alteration of musical taste? Such questions as these reveal that the matter of placing the pedagogical process within the context of a socio-cultural perspective has been neglected.

Pedagogical Process in Music

A third fundamental set of problems here in purview focusses upon the nature of the pedagogical process itself. It must be noted at the outset that this study is concerned with the entire range of musical pedagogy and not just with music education conceived as 'school music' education. First, there has been wide divergence of opinion as to the question of to whom music should be taught. There have been those 'elitists' who have suggested that music should be taught only to the 'musically talented'. It is essential from this perspective to find out what degree of musical ability or musical aptitude students have, and then screen out those students who rate low on the diagnostic tests. This then means that the teacher can achieve much more with the talented few. It also means that fewer students will be frustrated by a lack of ability in music. The question here becomes one of deciding the minimal level of ability above which the student will be allowed to proceed. On the other hand, there have been those who have espoused a 'democratic' philosophy; who have urged that all students should receive musical education irrespective of their musical ability or experience. These two differing points of view result in widely divergent musical programs with corresponding differences in musical curricula, numbers of students served, types of teaching staff recruited, supervisory problems generated, and related issues.

Another major area of concern in which wide disagreement and divergence of opinion is evidenced is that of how music shall be taught. This has traditionally constituted one of the main areas of concern in music education. Firstly, there has been divergence of opinion as to whether the music curriculum should be structured or non-structured,

and whether it should be centred around composition and/or improvization, listening to performances of music, or engaging in performances of music either exclusively or in concert. Recently, proposals for learning music through various 'interrelated arts' programs have been made. Considerable attention has been given to these approaches. Some music educators have advocated that the curriculum in music should commence with generalized interrelated arts programs and only then progress toward specialized courses in music itself. Other music educators have argued that students should have a firm foundation in musical concepts first and then later proceed to more generalized interrelated arts programs when they have demonstrated an understanding of musical concepts at some generally acceptable level. Also, a number of well-defined music education approaches such as the Kodály and Suzuki methods are prevalent within music education. Various proponents of these methods propound the principles enunciated by their founders in a vein similar to disciples proselytizing to their master's cause. In consequence, having discovered "the faith" some minds are closed to other alternatives. More generally, there is also an openness to "faddishness" in curriculum construction and pedagogical approach as one 'orthodox' doctrine follows another in comparatively rapid succession.

Within the field of pedagogical research itself, there is little basic understanding of what takes place at a fundamental level in the teaching-learning situation. A variety of teacher characteristics have been studied to determine the impact of each individual characteristic upon student learning but without conclusive result. Further, a variety of learning and instructional theories have been

proposed with a similar divergence of result. We still do not understand how learning actually takes place, why it takes place, and the precise nature of the interaction between teacher and student. We understand the peripheral nature of the problem and have theories about what happens. But there yet remains, not only in music education but within the wider field of pedagogy as a whole, a dearth of basic knowledge. Many studies have examined some of the specific things that the teacher and student do, while neglecting entirely the issue of what kinds of persons the teacher and student are, in addition. It is obvious that if decisions are to be made concerning how music is to be taught, some fundamental considerations of the underlying pedagogical process must be addressed. It is only when such a basis is formed that intelligent decisions as to the merit of extant methodological approaches in music education may be made. Otherwise we continue to be swept about by "every wind of doctrine".

There is also the question of the administration and supervision of music education. In the past this area has been largely ignored. It has been assumed that a music teacher could go into a given school and implement a satisfactory music program on her own. Therefore it has generally been proposed, most especially here in North America, that the individual teacher should be left largely unsupervised to develop curricula and activities. On the other hand, there have been those countries in other parts of the world, such as Hungary for instance, in which it has been believed that the music teacher should be closely supervised and should follow a nationally adopted program of musical studies (allowing of course some room for individuality). These two extremes have been evident and yet little attention has been paid

to the role of supervision and administration of music education, to its likely optimal level of thrust, and to the appropriate methods and approaches to be employed. While lip service has been given to the necessity for some measure of vertical and horizontal integration of music programs throughout a given city, province or state, or country, discussions as to the appropriate level of this integration and the methodology by which it may be achieved have been limited. In consequence, there is confusion among music educators and administrators concerning the direction in which musical pedagogy should be moving.

It is obvious that full, complete and systematic attention to all these problems is outside the scope of this present study. The writer attempts, however, to elucidate several significant issues within pedagogy which may in concert provide some measure of direction in the field, or, alternately, constitute a first step toward a theoretical framework within which such discussions may be conducted. Hopefully this may provide some unity of thrust both within the field of research in musical pedagogy as well as that of music education practise.

Musical Research

A fourth fundamental set of problems focusses in the area of music education research. Traditionally, many music educators have entered the profession because they wished to perform music, and not primarily in order to do research. In consequence, there has been a comparative lack of concern for careful research. That research which has been done has consisted of two principle orientations: firstly, research in the 'positivistic' tradition and reported largely in the

research journals such as the Journal of Research in Music Education; and secondly, research in the 'phenomenological' tradition and reported in various of the professional magazines, such as the Music Educators Journal. The latter principally constitutes personal reports as to what has worked for a given individual in the past and of encouragement offered to others to try the described procedures or materials for themselves. The former, however, constitutes by far the greater volume of reported research. Most of the studies are ex post facto with an attempt to be as purely experimental (in the tradition of the "hard" sciences) as possible. The majority of the studies are focussed at the biological/physiological and psychological levels. The difficulty with respect to the lack of clarity in definition of certain proposed concepts constituting variables under investigation has been noted above. Various investigators have taken certain "base-line" studies for granted and built from there. And, in consequence, numerous pyramids have emerged based upon these "base-line" studies. It is evident, then, that when the emergent base-line studies are questioned, the validity of the resultant 'follow-on' studies must also be questioned.

The concentration of studies at the physiological and psychological levels has ignored the various other integrative levels of causal nexii, in particular, the social nexus. Such positivistic approaches tend to ignore the contributions of intuition. Further, as will be more fully evident later, sequentiality versus simultaneity of causal events, as one moves away from the bio-physiological and psychological toward the social nexus, greatly restricts the validity of the positivistic approaches to research. Further, investigators

who are pursuing the problem from a positivistic orientation must ignore many of the numerous and complex problems inherent in the musical symbol itself, e.g., those associated, say, with psychological i.e., subjectively apprehended time and space (or virtual time and space to use Langerian terminology). Such factors cannot be taken into account because, in the final analysis, they cannot be directly observed. To 'observe' them and/or to take them into account violates the positivistic rule precluding 'subjective' data. But to ignore such data is to distort the experienced reality.

On the other hand, the phenomenologist relies almost exclusively upon intuition and the thrust of the analysis is totally subjective. Here the emphasis upon the 'control' of an 'experimental' situation in the positivistic sense is minimal. The phenomenologist assumes that it is possible for him to approach the world with a continuing sense of wonder and awe and he attempts to continually rediscover and redefine the things he experiences and observes. Phenomenology ignores the patterning which may be present at each analytical level from the physical through the social nexii. Also it ignores the fact that there is some translation between subjective perceptions into observable behaviours. Further it focusses on studies at the micro-level and is preoccupied with the bio-psychological level investigations, to the exclusion largely of macro-level studies biased toward socio-cultural issues.

The assumptions underlying both the positivistic and phenomenological orientations when taken literally are incomplete when considered in relationship to the "real world" or to what is perceived as the "real world". They constitute "ideals" which cannot be reached in the

real world; they require the acceptance of assumptions which are unwarranted, especially if one considers social situations encountered in music education. An alternative theoretical framework is needed in which realistic assumptions are made. Such a framework is proposed by the writer in the form of a more eclectic empirical frame of reference. A fuller discussion of the nature of an 'ideal type' and an 'empirical type' follows in Chapter II. The writer maintains that a combination of elements of both positivism and phenomenology is essential in the development of a methodology which will appropriately address research questions in music education. Indeed, the writer proposes to base the present study upon this methodological approach. A detailed rationale for this position follows in Chapter II.

Lack of a Theoretical Base

A fifth fundamental difficulty in music education is the lack of a theoretical base. This difficulty has been alluded to above. However, it is essential to spell it out in more detail. As noted above with respect to the problems in music education research, there has been a focus upon micro-level studies to the exclusion, very largely, of macro-level studies. It is necessary at various points in time in the development of a discipline to evaluate traditional approaches, to examine present positions, and to propose various "routes" for the future. Because of the overwhelming concern among music educators for pragmatic issues in such areas as curriculum building, for example, comparatively little attention has been devoted to philosophical and theoretical issues. It is apparent that music education is faced with a number of alternatives and there is an obvious need for priorities.

How then are these priorities to be set unless there is an underlying theoretical base which is explicated at a high level of generality in order that it may be of some utility in differing situations with respect to time and space? There is a need for a theoretical base which is drawn at a higher, more abstract level of generality. The present study constitutes a first step toward the formulation of such a comprehensive theoretical base in music education.

Summary

Thus far we have discussed a number of key problems in music education. Included have been: problems with respect to the nature of the musical symbol itself; problems with respect to socio-cultural issues; problems with respect to the pedagogical process and its nature; problems in music education research; and problems associated with the lack of a theoretical base in musical pedagogy. The intent has been to show the need for a theoretical study in music education which takes account of three major areas: structural assumptions, by which is meant assumptions respecting the musical symbol; socio-cultural assumptions; and pedagogical assumptions. It has been argued that the structural and pedagogical considerations are of paramount importance in music education and that the socio-cultural considerations have been largely overlooked and properly provide the perspective in which the interrelationships between the foregoing considerations must be viewed.

THE ORGANIZATION OF THE THESIS

The writer develops three logically distinguishable areas of focus in the analysis, i.e., structural, socio-cultural and pedagogical. These are referred to subsequently as 'cells'. Each of the cells is composed of several constituent 'assumptive sets'. The rationale underlying this approach is that in the explication of the assumptions in each of the incorporated areas of focus, the roots of action are examined. We will start with the structural assumptions and then move on to the socio-cultural and conclude with the pedagogical. Each of the three cells is viewed by the writer as a conceptually distinct entity. In each case a review of the relevant research and/or theoretical formulations precedes an attempt to evaluate these. Where feasible, there are alternate assumptions proposed which hopefully will prove more satisfactory. The analysis is alternatively pursued both inductively and deductively. Each one of the several assumptive sets is derived inductively and then these are carried forward deductively in the analysis in a manner such that the acceptance of given assumptive sets presupposes the logical possibility of the acceptance of others. Continually throughout the development of the analysis there is an appeal to three criteria: namely, consistency within the formulation; correspondence to research findings and prior theoretical formulations; and coherence of the analysis as a logical totality.

In Chapter III attention is focussed on the structural assumptions in music education. Within the context of the analysis of the "received" structural assumptions, a discussion of the contributions of Susanne Langer and the criticisms which have been levelled against her work by persons of note constitutes a springboard

for the analysis of what constitutes a musical symbol and what is its nature. The analysis is further extended beyond Langer's contribution by taking recourse to Sorokin's contribution in terms of social space and time and of Zentner's refinement and explication of these notions and his recognition of their dynamic interrelationship. It is argued that cycles in music are related to cycles in the social sphere. This discussion focusses then upon placing Langer's formulation in the perspective of a wider socio-cultural context.

The analysis then moves in the direction of addressing the question of "What is an aesthetic experience?" To what extent does aesthetic experience involve affective experience? Is it valid to distinguish affective and aesthetic experience? A discussion of these questions leads to the conclusion that the focus of music education is the development of aesthetic responsiveness; that a distinction may logically be made between aesthetic and affective experiences in relation to the musical event; and that the aesthetic experience is a variable one.

A discussion of the validity of the distinction between 'art' and 'non-art' music then follows. Music is defined as "the organized combination of sounds and silences through time". The possibility of a 'tragedy-comedy' continuum operative in music is noted in this connection. It is also argued that the notion of a balance of <u>form</u> and <u>function</u> of music is relevant in a consideration of the quality of any given piece of music. It is further argued that quality gradations in music are subjectively and relativistically ascertained. Five elements of structure in music are identified as follows: pitch; rhythm; timbre; dynamics; and form. These, it is held, are common in all music.

The need for a refinement of certain definitions presently in use in music education is then discussed and the following terms are analyzed: 'appreciation'; and 'musicianship'. These terms are selected for consideration because they bear especially on the theoretical formulation under discussion in terms of providing measures of evaluation of musical experience.

In Chapter IV the socio-cultural assumptions in music education are analyzed. With respect to the socio-cultural assumptions, it is first assumed that music is universal to all cultures. A 'sphere of validity' is said to exist about a work of art where similar cognitive responses and meanings are evoked through a shared symbolism communicated by a work of art. It is argued that spheres of validity may approximate unity within a culture or alternatively there may be a number of these co-existent at any given time. This analysis addresses the question of "youth music" and the causes of difficulties in communication or conflict situations between music educators and students.

Given that spheres of validity and their associated socio-musical groups do in fact develop about particular forms of musical expression and experience, the question of <u>how</u> and <u>why</u> these spheres of validity and their associated socio-musical groups arise is then addressed. From an examination of the literature of musical history and of the history of music education in particular, the writer identifies eight processes which appear to have been operative in the formation of spheres of validity and their associated socio-musical groups. They are as follows: technological change; commercialization; religious influence; patronage; folk tradition; musical fraternity; population migration and

governmental influence. They are labelled 'developers'. Various examples are cited which illustrate the operation of each developer and the variation in both social and actual time and space. This analysis addresses the question of the possibility of either conflict or cooperation between the developers when several are operative simultaneously. The writer argues that presently in North America there are a variety of influences on musical education and on the formation of musical taste which lie outside the control of the school music teacher. These may either counteract the teacher's influence or on the other hand, enhance it.

Further, assuming that socio-musical groups do form about spheres of validity, the question of how they maintain themselves is addressed. In spite of the centrality of groups in the music education process, e.g., performance organizations, little research has been conducted in this area. The present analysis constitutes one theoretical approach to the problem. Zentner's 'Codification of System Properties' is selected as a working classification of processes by which the questions relative to the maintenance of the socio-musical groups may be examined. This analysis addresses the largely neglected issue of the nature and operation of groups in music education.

In Chapter V the pedagogical assumptions in music education are analyzed. The pedagogical process is defined as "the process of 'mythologization' determined by the norms generated through several 'developer' processes which may vary through space and time". When this analysis is placed within the framework of the cyclical socio-cultural swings between the 'sensate' and 'ideational' polarities (after Sorokin), it is rendered extremely sensitive to changes in time

and space. This has important implications for the legitimacy of various activities in music education, methods of instruction, the administration and supervision of music education, and the types of teachers hired, among others. The analysis attempts to remedy the neglected issue of the importance of socio-cultural considerations within the pedagogical process in music education.

The evidence with respect to the development of musical ability, cognitive functioning, and emotional response is reviewed and the contributions of various relevant theoretical formulations are noted. The work of Piaget in describing the development of cognitive functioning is discussed. Further, the work of Vaughan in describing four levels of creativity is noted and the superimposition of the Vaughan model on the Piagetian stages of development discloses a way of conceptually incorporating creativity within the developing cognitive capacities.

The current lack of attention among music educators and more widely in the field of pedagogy generally to the operative physiological processes in the learning experience is noted. The writer cites evidence for the centrality of the emotional response to the learning experience in determining the efficiency of the learning process. Further, the importance of the frontal lobes of the brain in 'the directive process' and therefore in the control (within various physiological constraints) of the cognitive processes and emotional expressions is hypothesized.

Following from the centrality of emotional response within the learning process, it is essential to examine the fundamental nature of the interaction process between teacher and student. The writer proposes that there are readily recognizable and theoretically distinguishable 'empirical types' of teachers and students which

summatively and collectively define the larger containing 'ideal type' - reciprocal empathy. The reader is referred to the following Chapter II for a more fullsome explanation of empirical types and ideal types. The characterization of these types and an analysis of the teacher-student 'mixes' yields a continuum between the two polar points of 'reciprocal empathy' and 'reciprocal antipathy'. It is proposed that the values which are attached to the types of teachers and students and their precise manifestation will change through time and space. It is also argued that learning is optimized at the point of reciprocal empathy.

In Chapter VI some of the expectations which the analysis of structural, socio-cultural, and pedagogical assumptions commits the writer to, are submitted as propositional statements within the context of, and as they address each of the problem areas in music education identified above. The implications for further research and practise in music education are also noted.

SCOPE AND LIMITATIONS OF THE ANALYSIS

There are various evident limitations in the following analysis. First, it is cast at the macro-level and at a high level of generality. It is therefore impossible within the scope of the study to systematically discuss all the available evidence or all the theoretical formulations extant. Further, it is also outside the scope of the present study to systematically discuss all the implications following from the analysis and thereby to complete a full synthesis. Obviously the very breadth of the study sacrifices a systematic treatment of micro-elements in favour of a breadth of scope and generality and a statement at a high level of inclusiveness. For example, it would be most

interesting and indeed profitable to investigate the physiological dimensions of the music education process in great depth. However, in interest of achieving an analysis which attempts a focus at all integrative levels of causal nexii from the physiological to the social, and which opts for a macro- rather than a micro- view, such an undertaking is obviously outside the scope of the present study.

Second, it is impossible within the succeeding analysis to describe in any detail the various musical pedagogical approaches which have been used or recommended to date. Therefore, in terms of the relevance to the field of musical pedagogy, this constitutes a definite limitation.

Third, only three cells are included within the purview of the present analysis. These are included because the musical or structural elements are considered essential to the analysis, the pedagogical elements chosen are those which the writer considers to be vital to a basic understanding of the pedagogical process <u>per se</u>, and the socio-cultural elements are incorporated because the writer argues that they have been largely neglected and are needed in order to give the study perspective. It should be noted that the terms used throughout are designed to be utilized at differing levels of inclusiveness of data. However, doubtless the reader may point to other significant and interesting areas of consideration which have been omitted from the analysis. The sole defence offered in terms of the omission of other variables and issues from the analysis lies in the need to draw certain lines of demarcation within which an investigation would be conducted and outside which, any omission must constitute a limitation. This includes not only the variables to be included within the purview of the

study, but the level of detail encompassed with respect to each variable.

FUNCTIONS OF THE ANALYSIS

The present study serves a number of possible functions: First, it constitutes a first step toward the formulation of a theoretical framework and as such it serves a generative function, i.e., it suggests possible hypotheses, approaches in analysis, and possible directions in music education practise. It asks many more questions than it answers.

Second, it constitutes a framework developed at a high level of generality which could conceivably form the basis on which decisions concerning proposed curricula or developing musical programs might be made by administrators, supervisors and others concerned with formulating the direction in which music education is to proceed in a given place at a given time.

Third, it suggests possible implications for a wide range of different specialty areas within the total scope of music education. Indeed, the conclusions following from the present study have possible ramifications for a variety of other specialty areas of pedagogy outside the field of music.

Fourth, it is illustrative of attempts to explicate assumptions for in the explication of assumptions, as noted above, the roots, the logical premises, of action are examined.

Fifth, it constitutes an attempt to "stand back", as it were, and re-evaluate the "present state of the art". In so doing, it represents a step in the development of a theoretical formulation which is

not only consistent with the evidence from research but is also internally and logically consistent.

Sixth, the present study is illustrative of the consequences of the utilization of ideal typification and the combination of elements of positivistic and phenomenological methodologies.

CHAPTER II

METHODOLOGICAL ISSUES

In the Introduction it was indicated that the formulation of the present analysis rests upon two basic methodological pillars, namely, the notion of ideal typification and a judicious selection of elements of the positivistic and phenomenological methodologies. It is to a discussion of these issues that we now turn.

IDEAL TYPIFICATION

Considerable attention has been given to the notion of the ideal type in the social sciences, notably in sociology, psychology and economics.[1] A number of investigators in these several fields have attempted to define and explicate the ideal type. Included are such persons as Max Weber, Don Martindale,[2] Howard Becker,[3] Phillip Vernon,[4] and Fritz Machlup.[5] Unfortunately it has often been the case that the reader has come away knowing more about "what the ideal type is not" rather than "what in fact it is". The most definitive statement concerning the ideal typification process encountered thus far by the writer is that of Henry Zentner (1976), in his unpublished essay "Ideal Typification: Mensurative and Generative". It is not the present writer's intention to develop an exhaustive description of the notion of 'ideal typification'. Rather, it is the writer's intention to point to certain generic characteristics of ideal types which Professor Zentner has identified and which are relevant to matters at

issue in this study.

Zentner sees the ideal typification process as being culturally and historically relative. He argues that ideal types are ultimately grounded in the "mythological sub-structure of a given culture and/or society." They serve a "mediating" function between mythological and more formal scientific truths and realities. He identifies five major characteristics of ideal types as follows:

First, ideal type constructs are "analytically dependant upon a prior process of observation and classification of the phenomena in purview." They must of necessity be approached from a comparative standpoint, although this is seldom fully explicit.

Second, ideal types are necessarily comprised of "two or more analytically abstract and conceptually independant categories of phenomena." Again, the more explicit the analytical process, the more fully this limiting condition is realized.

Third, these categories must point to certain universal tendencies of social action, which, while pointing in (logically) opposite directions, are, functionally, at the same time inextricably linked (Bendix and Berger, 1959). They must, as Zentner sees it, "reflect logically opposite structural features and/or functional tendencies." Further, the attributes or structural features of the two categories of phenomena under analysis, while exhibiting the characteristics of total inclusiveness as well as total exhaustiveness, must be capable of reduction or translation to a set of conceptual common denominators. The result which Zentner envisages is that the attributes or features of the one polar extreme category, when plotted on a continuum, should ideally range from one hundred per cent through

zero per cent. The features of the other and corresponding polar extreme category should, obversely, range from zero through one hundred per cent when read in the same direction. Zentner claims that only in this way can the analytically abstract or "pure" or "ideal" character of the two polar types be retained "while at the same time facilitating the juxtaposition at the empirical level of a totally exhaustive inventory of potential combinations and permutations of the two apposite sets of attributes."

Fourth, ideally these conceptual and/or semantic common denominators must be convertible to a suitable metric form, for, as Zentner argues, the generic object-in-view in the formulation of ideal types is the measurement of given phenomena.

Fifth, this metric should ideally consist of "unlimited, infinitely expandable, equally interchangeable units and/or parts, e.g., dollars and cents." Zentner further argues that as this condition is realized, it is possible to apply various mathematical models and statistical analyses to the data which is gathered and thus to generate hypotheses. He notes, however, the difficulty in the social sciences with respect to a "mature metric". Indeed, in some cases it may be that neither a genuine cardinal nor yet an ordinal scale of any kind may be possible. In such cases it may be necessary to rely on a rendition of "purely verbal descriptions of some given number of empirical instances or type cases which embody and/or manifest given modes of attribute combination or "mix", and which . . . . could be predicted or expected to behave in specifiable ways."

It may be noted in this connection that Zentner recognizes the strategic conceptual as well as observational importance of the

notion of a series of mutually interpenetrating levels of structural integration and analysis. Included here are the physiological, the psychological, the organizational, the cultural, and the historical.[6] Each of these conceptually distinct levels of analysis hypothetically constitutes a potential source of transcendence, whether historical, or causal, or ethical or otherwise, to any or all of the others, depending upon the details of the immediate structural situation. And all such forms of transcendence provide the bed-rock in which considerations of validity and reliability are anchored.[7]

The 'empirical type' or 'sub-type', therefore, must be clearly distinguished from the 'ideal type'. These sub-types are derived from empirical observation. Hence, their designation as empirical types. Such empirical types or sub-types represent a modification in respect of one or more of the generic structural components which comprise the containing ideal type. In other words, each sub-type consists of a given inventory of structural components that summatively (mathematically) and collectively define the larger containing ideal type.

The question of 'validity' and 'reliability' of ideal types is an issue of central concern in the literature. On the one hand, the myth has been propogated (Loomis and Loomis, 1965: 31) that ideal types cannot be verified or tested. On the other hand, various investigators (Vernon, 1973) recognize a need for verification of ideal types. The question remains as to how this verification is to be most appropriately achieved.[8]

Zentner suggests that there are two types of tests by which the validity and reliability of a given ideal type may be ascertained: (1) logical tests; and (2) moral tests.

Logical tests include the canons of consistency, correspondence and coherence. Moral tests, alternatively, include: (a) utility, construed in heuristic and pragmatic terms; (b) consensus, construed in terms of majority-minority polarizations, or in terms of "weight of evidence" types of propositions, or with respect to differential duration through time, etc; and (c) authority, construed in terms of morally, ethically, politically, or professionally legitimated competence.

Zentner argues that the latter tests are highly sensitive to changes with respect to time and space. He firmly insists that we cannot escape this relativity. He also notes, with respect to the socio-cultural cyclical phases postulated by Sorokin, that in the Ideational phase of culture, change is minimal and there is widespread consensus concerning reality. Discursive symbols are readily interchangeable with non-discursive ones. Thus validity and reliability of behavioural expectations are more or less assured due to the effective operation of normal socialization processes. On the other hand, in the Sensate phase, the situation is the opposite of the preceding one. Here, change is at a maximum, and there is little consensus concerning reality. Under such circumstances, Zentner notes, everyone is "doing his own thing". Hence relativity of expectations is so great and "chaotic" as to render validity and reliability of prediction-expectation all but completely random and without visible meaning. He further concludes that ultimately "all is relative to the initial inventory of culturally selected aspects of reality, the subsequently (historically) established definition of it."

This point of view places a particular emphasis upon the

psychologically "external" sources of assumed meanings of phenomena as well as the role of the "external" forces of causation as these are manifest at the level of history, culture, and social organization. These "externals" have been heretofore largely ignored by psychologically reductionist researchers in both the positivistic and phenomenological traditions. As a corollary to this argument, no longer is it possible to assume a causal model which postulates a simple sequential causation, in terms of which events are seen as appearing in a simple temporal sequence. Rather, we must also take into consideration the much more complex companion notion of a structure of causal forces which are generally characterized by simultaneity and mutual determination.

In summary, we have noted five principal generic characteristics of ideal types as described by Zentner. We have also noted two types of tests by which he proposes to ascertain the validity and reliability of a given ideal type.

AN ALTERNATIVE 'EMPIRICAL TYPE' METHODOLOGICAL PARADIGM FOR RESEARCH IN MUSIC EDUCATION

Having proposed the ideal type as a conceptual tool which may be utilized in the succeeding analysis, it is of interest to examine two ideal type methodological approaches in music education, namely, the 'positivistic' and the 'phenomenological'. It is now the writer's intention to spell out the composite elements and characteristics of each paradigm[9] or "world view" in some detail and to propose the notion that, taken literally and carried to extremes, the assumptions of each paradigm are unrealistic and unapplicable in the "real world".

Further, because we are searching for a methodological paradigm which will constitute an appropriate basis for research in the "real world" of musical pedagogy and which will be acceptable and justifiable not only theoretically but also pragmatically, it is necessary that the underlying limiting assumptions must be realistic and explicit. And this necessitates the creation of a 'synthetic' paradigm, one which abstracts and recombines the positively useful elements of both positivism and phenomenology.

It may be noted at the outset that the proposition that both the positivistic and phenomenological paradigms, while not fully acceptable pragmatically, are nevertheless useful in describing the maxima and minima points on a range of criteria constituting the composite elements of the resulting synthetic type.

Table 1 summarizes the constituent dimensions for each of the two ideal type paradigms, i.e., 'positivism' and 'phenomenology', and their relationship to the synthetic paradigm to be developed subsequently. Let us now examine each of these dimensions in some detail, noting in each case, the assumptions which underly positivism and phenomenology and the resultant hypothetical synthetic methodological paradigm.

Focus of the Causal Forces

Historically both the phenomenological and positivistic formulations have neglected to address the question of the hierarchical series of integrative levels analysis. A number of writers[10] have recognized a variety of levels of 'inclusiveness of organization', from the physical, biological, psychological, organizational, to the societo-

Table 1

Dimensions of the 'Positivistic' and 'Phenomenological' Ideal Types and the Resultant 'Synthetic' Empirical Type

Dimensions	Ideal Type 'Positivism'	Empirical Type 'Synthesis'	Ideal Type 'Phenomenology'
Focus of Causal Forces	'External' (E)	(E + I)	'Internal' (I)
Intellection	'Reason' (R)	(R + T)	'Intuition' (T)
Causation	'Determinism' (D)	(D + R)	'Relativism' (R)
Measurement Capability	'Objectivity' (O)	(O + S)	'Subjectivity' (S)
Approach to Man	'Atomic/Molar' (A)	(A + H)	'Holistic' (H)
Methodology	'Mensurative' (M)	(M + U)	'Understanding' (U)
Time	'Zero-order' (Z)	(Z + V)	'Infinitely variable or Relative' (V)

cultural, and historical, in which fundamentally different issues respecting structure, integration, and causation must be addressed. Silverman (1970) makes the point that to the phenomenologist, on the one hand, all the forces of causation are assumed to be within a person, i.e., they are internal. On the other hand, we have the positivist, to whom all the causal forces are assumed to be external, but confined to the physiological and/or psychological levels.

The positivist, for example, assumes that overt behaviour illustrates everything we need to know about man. There is no difference between what happens inside a person and what is evidenced in external behaviour. This means that we can evaluate the effect of certain treatments by examining only a person's overt behaviour. Alternately, the phenomenologist argues that man is more than his observable overt behaviour. Indeed, his thoughts are prior to his behaviour and may in fact, be radically different from that behaviour. The phenomenologist points to the difference between the "experiential knowledge" of eating an apple, for example, and the "knowledge about" the eating of apples. Consciousness, to him, is not then "a given", but is rather an important element of reality. He tends to hold that we cannot describe what we perceive "out there" without describing our perceptions and consciousness of what is external (Tiryakian, 1973: 195). Introspection thus becomes a key concern to the phenomenologist and his focus centres here rather than upon an examination of external or overt behaviour.

When applied in the "real" or empirical world, there are several difficulties associated with both the phenomenological and positivistic positions.

First, in neglecting to address the entire series of integrative levels, they have fallen victim to the Durkheimian dilemma (Zentner, 1950). Durkheim made the argument that all behaviour is socially determined. The relevant causal forces, he alleged, are organizational, cultural, and evolutionary (historical), and these he termed "collective representations". Such "collective representations are external to the individual and simultaneously constraining upon him." At the organizational and cultural levels, causal nexii are clearly not internal; rather they are to a very large extent 'objective' and/or external to those properly socialized.

It appears, then, that phenomenology and positivism have traditionally construed the human organism as a mere physical/biological/psychological entity. They both fail to take account of the impact of the organizational, cultural and historical levels. Thus, while at the biological/physiological level it would appear that the causal nexii are chiefly internal, at the organizational, cultural and historical levels they are chiefly external. It is, evident, therefore, that at the psychological and organizational levels, which are of primary concern to music educators, both internal and external causal nexii must be considered together.

Second, the positivist has traditionally recognized only physical time and space. He observes what he can measure in the objective, physical world. The phenomenologist along with the positivist recognizes the presence of this "real" physical world, but in addition he sees a 'sacred-secular' continuum (Becker, cited in Loomis and Loomis, 1965). He further recognizes that generically and initially time and space are socially and psychologically apprehended.

Sorokin (Zentner, 1972) recognized that there was a degree of translation of the units of physical time and space into those of social time and space, and vice versa. It is this consideration, then, which constitutes the common ground on which the present synthetic methodological paradigm comes to rest.

Intellection

The positivist makes the assumption that logic and reason are the only admissable forms of intellection. Intuition is only valuable as it is refined and worked out by reason (Hitt, 1969: 655). The phenomenologist, on the other hand, engages in the process of reduction, whereby he 'brackets' the natural world, i.e., places it in abeyance or refrains "intentionally and systematically from all judgments related directly or indirectly to the existence of the outer world" (Heap and Roth, 1973: 356). Intuition for him becomes valuable of itself, inasmuch as it is necessary for the phenomenologist to 'intuit essences'. He approaches the world with a sense of wonder and awe.

The phenomenologist neglects the fact that there appears to be pattern and order in the world both in terms of thought and in the essential orderliness and continuity of the natural and social worlds. Every day he attempts to rediscover and redefine the things he perceives out of the whole cloth, as it were. Logic and reason are thus questioned by the phenomenologist.

McKellar (1957: 197) argues that there are two generic types of thinking, both of which must be allowed. These he calls A-thinking and R-thinking. A-thinking is autistic or creative thinking, whereas

R-thinking involves the use of reason and logic. Similarly, Langer (1948) argues that thinking is the process of using two types of symbols, discursive and non-discursive. Discursive symbols are those we can express mathematically or in terms of language, whereas non-discursive symbols are evidenced in art, music and drama among others.

It is apparent that logic and reason, on the one hand, and intuition, on the other, are valuable elements by which we can discover knowledge about man. To deny that A-thinking (after McKellar) is present is just as absurd as it is to argue that logic and reason do not have a place, i.e., there is no R-thinking. Man evidences logic and reason as well as intuition. Researchers must then take account of both elements. To insist, as the phenomenologists to, that it is necessary constantly to rediscover the elements around one, is to neglect the pattern and order which is clearly evident in the natural world. On the other hand, to neglect intuition or A-thinking, or the use of non-discursive symbolism, as the positivist in the final analysis must do, is to substitute one limitation for another that is equally one-sided.

Causation

The positivist seemingly must make the assumption of "external" causal determinism. A scientist takes "external" causes A, B, and C and relates them to given effects X, Y and Z under specified conditions. After repeated experimentation the scientist hypothesizes consequent effects X, Y and Z upon the presence of causes A, B and C under specified conditions. Certain hypotheses are characteristically and deductively formulated in advance of the investigation. These propose

given relationships between the variables. The researcher then assumes that having designated variable A as the independant variable and X as the dependant variable, the effects of A will only be investigated as they affect X. In this case there are no unanticipated effects. In assuming that those effects or consequences affecting X are the only effects of interest in the experiment, the investigator does not formally take account of numerous other present variables (D. . . N) which could also conceivably be affected consequent upon the implementation of A. Furthermore, the problem of defining the mediating variables and observing their entrance and demise when it is assumed that effects may be anticipated or unanticipated and unexpected mediating variables may be operative, is logically impossible to overcome. Just because A and X are correlated at a statistically acceptable level of significance does not necessarily mean that A caused X. It may well be the case that X may in fact be affected by some extraneous variable which comes into play when A is introduced.

In phenomenology the observer deliberately attempts to suspend judgement concerning the number of and structure of the relationships between the extant variables. Moreover, he attempts to maintain an open mind concerning possible changes in relationships between variables. As certain relationships or consequences impinge on his perception and his consciousness, he inductively formulates certain hypotheses concerning intuitively apprehended interrelationships of variable temporal duration between given variables. This orientation necessitates the recognition of a multiplicity of possible causes and consequences which are more or less simultaneous and which are of greater or lesser duration in a given situation (Zentner, 1973). This orientation

necessitates the assumption of both anticipated and unanticipated effects consequent upon any given cause, and that there may be a veritable matrix of such causes and effects linked together (MacIver, 1964: 190). Therefore the assumption of determinism accepted by the positivist is rejected by the phenomenologist in favour of the principle of relativism. A basic theme in the Husserlian philosophy is that of the "relativization of knowledge". The form in which he takes up the problem of relativism is historical. If one argues that basic to the phenomenological attitude is not "the experience straightforwardly seized, but reflection on the experience" (Natanson, 1973: 54), then it follows that the phenomenologist is viewing the event in the context of a relative time and space. He is reflecting on an experience which immediately places him in a similar position to that of an historian.

Zentner (1973: 150) points out that in the social realm, organizations and social groups are arranged hierarchically through social space. An event which may be visible at one level in social space may not necessarily be visible at another. This fact further complicates the examination of the issue of causation. An investigator at a high level of administration in a given school system, for example, may be in a position to observe certain events which would not be apparent to a university graduate student who is investigating the same phenomena. Further, an investigator who is also the teacher of a given class may attach certain meanings to events he observes in the class which may not be the same as those arrived at by an outside investigator. Emery and Trist (1965) cite an organizational example where the changed texture of an environment was not recognized

by traditional management until it was too late. It is therefore essential to take into account the differential visibility of events through differential social time and space.

It is apparent that neither assumption of determinism, as adopted by the positivists, nor relativism, as adopted by the phenomenologists, are acceptable of and by themselves. Determinism ignores the impact of unanticipated effects following from given actions and fails to adequately encompass the complexity of causation in time and space. On the other hand, relativism may lead to an abandonment of standards and evaluation procedures because it is deemed pragmatically impossible to fully ascertain the effects of given causes. This is the danger in the development of innovative projects in music education, then, that there will be a lack of stress upon the effects of the projects, whether in the short run or in the long run. Both of these principles are of value to the music educator. While it is true that events appear to have causes, after the assumption of determinism, it is also evident that unanticipated consequences of events become increasingly more complex as one moves up to higher levels of inclusiveness, i.e., from the physiological/biological to the cultural. Accordingly, such effects must be taken into account, and this logically requires acceptance also of the assumption of relativism.

Measurement Capability

The positivist makes the further assumption that it is possible to view man without bias and to objectively examine him as any mere physical object would be examined and analyzed. The investigator, then,

must adopt those procedures which minimize bias and which enable him to "objectively" study the effects of given causes. The phenomenologist, on the other hand, argues that it is never possible to objectively examine any phenomena. Indeed the essence of an investigation must be subjective. Man comes up with unexpected actions. He generates ideas and values in his mind. He poses new questions which had previously not been investigated and posits new courses of action. He communicates in a variety of ways, both verbally and non-verbally. Or, using Langerian terminology, he uses discursive and non-discursive symbols. This generation of communication necessitates, in the phenomenologist's view, an inference on the part of other actors in the situation as well as on the part of the observer, as to the meaning of a given individual's action, or indeed, of a group action or response. An individual's action may be interpreted in a variety of ways, dependant upon the meaning each places on a given communication. Tiryakian (1973: 199) argues that we do not perceive social objects immediately but rather our perception is a "mediated" one, dependant on the meanings constituting the "assumptive frame of reference". This assumptive frame of reference may be different for a given individual at different times, or for various individuals at any given time.

But both these assumptions are extreme. To argue that bias can be removed entirely and that an investigator is able to examine an event completely objectively is just as untenable as to argue that no degree of objectivity may be achieved. McKellar (1957: 148) cites Poggendorf's Illusion to illustrate that even in the physical realm, things may not be what they seem, and how, to some extent, perspective can alter the view of physical events. In reality it is necessary to

assume that both assumptions have merit. While the ideal may be detachment and objectivity, there is always some degree of bias and a discussion of the assumptive frame of reference (AFR) through which the investigator views the event, aids in placing the study in perspective. Accordingly, reliance upon a modified form of either point of view will likely prove necessary and useful.

Approach to Man

The positivist assumes that when man is studied, he may be viewed atomically and his various characteristics may be isolated and investigated separately. This implies that the effect of separating one characteristic from another does not alter the result. Man is held to be equal to the sum of his parts. The phenomenologist, on the other hand, argues that man must be considered holistically. The effect of examining one characteristic in abstraction from the rest is to invalidate the research. Man is more than the sum of his parts. The question here is not a simple dichotomy between an additive approach to man in distinction to a holistic or gestalt approach. There is a sense in which the parts of any thing in the physical realm are less than the sum. The question here revolves around the issue of whether in distinguishing the parts of any thing, the nature of those parts are changed or remain constant. The positivist must assume that the parts would remain constant. The phenomenologist, on the other hand, must assume that the parts would alter so radically so as to invalidate the research. Thus it is necessary for the phenomenologist to "intuit essences". The notion of intuition has been described above. Heap and Roth (1973: 358) define 'essence' as "that intuited invariant quality

without which the intended object, the phenomena, would not be what it is." Essence should not be confused with the "defining characteristics" or "necessary features" of objects in the empirical factual world. Rather it "has as its reference the a priori realm of possibilities which precedes that of actualities" (Heap and Roth, 1973: 358). In order to "intuit" the"essence" of a given situation, the investigator must become highly aware of a situation in which an event is taking place in order to gain an adequate grasp of the phenomena. Presumably, then, no two investigators will intuit the same essences because of differing assumptive frames of reference.

In the writer's view, the assumptions of both the positivists on the one hand, and the phenomenologists on the other, respecting the appropriate approach to man, are unacceptable. Indeed, Machlup (1970) has developed arguments showing that man may be readily represented by a number of 'types' and he cites various illustrative examples of these. Presumably, some modified form of either extreme point of view will yield considerable utility and is indeed warranted.

Methodology

The positivist assumes that man is knowable in "scientific" terms. He attempts to measure the phenomena he observes. The methodology applicable to the study of physical phenomena, as for example, in biology, chemistry, physics and other "hard" sciences, is also applicable in their view to a study of man and by implication, to music education. It is fundamental in this methodology, then, to formulate hypotheses, to control the environment, and to alter independant variable A, for instance, while observing the effect of the

alteration upon given dependant variable X. The scientist sets up a postulated determinative causal order among certain variables. He must define these and set up an experimental method which will enable an examination of the effects of the variables he has defined. Further. it must be assumed that the assumptions the positivist accepts, if applied to music education, must be applicable not only at the biological/physiological levels, but also in the social sphere, i.e., at the organizational and societo-cultural levels.

The phenomenologist argues that man is more than we can ever know about him (Hitt, 1969). The analysis of man by mankind is analogous to the study of a group of chimpanzees by a fellow chimpanzee. Therefore, to the phenomenologist, the 'optimum' objective is "understanding" rather than simply measurement. While he is conscious of scientific standards and propositions in the "hard" sciences, he takes none of them as a foundation and accepts them only after he has "placed it in a bracket". Tiryakian (1973: 206), in interpreting the term 'bracket' existentially, offers the following definition: "To 'bracket' the a priori structures of consciousness means to consider these structures as data, very important phenomenological data and not to treat them as sources of error." This is in contrast, he argues, to the positivistic viewpoint which identifies such structures (e.g., observer bias) as sources of error in measurement which must be reduced to a minimum, or accurately accounted for. In this methodology, there is no necessary a priori research design and no premature or predetermined delimitation of the essential parameters. Instead, the researcher continues to observe in a spirit of "naivete" abstaining from making judgements along the way as to what is true or

false, or what is significant or trivial (Tiryakian, 1973: 207). Thus the researcher sees social phenomena in a "fresh perspective". But always such a "fresh perspective" must be seen "historically" or "structurally", i.e., as being historically, culturally, organizationally, and personally relative to prevailing world view.

In the writer's view, the assumptions of both the positivistic and phenomenological methodologies when taken alone are unacceptable. Rather, the writer argues that both approaches have advantages to bear methodologically. Presumably some combination of both would yield a methodology appropriate to the constraints of music education.

Time

The positivists have traditionally predicated their experiments upon the notion of zero-order time. Given observations are taken at given times (t_1 . . . t_n). It is assumed that one can extrapolate from each set of observations on the assumption that no significant changes take place in conditions between or at the observations at t_1, t_2, . . t_n. This assumes that there are long time scales and therefore, that it is valid to compare given observations at t_1, t_2, . . t_n. The character of the circumstances surrounding the event have not changed sufficiently to invalidate comparisons at given times t_1, t_2, . . t_n.

On the other hand, the phenomenologists have assumed that time is infinitely variable and relative. If given observations are taken at given times (t_1 . . . t_n), the phenomenologist assumes that one cannot necessarily extrapolate from each given set of observations. Zentner (1976) has argued that there is a significant difference in terms of time scales or duration between physical events and social events.

He proposes that a physical event may have a comparatively long time scale, e.g., the half-life of a Uranium atom, whereas as one proceeds from the physical to the societo-cultural integrative level, the time scale may decline radically, e.g., a war may be commenced with the flick of a switch. It may well be that conditions alter between the times of observation, thus militating against the validity of the comparability of the observations. This notion subsumes that of a significantly shorter time scale than the positivist traditionally admits.

It is apparent, then, that as researchers in music education address principally the psychological and organizational integrative levels, a variety of time scales must be incorporated within the purview of the analysis. In other words, a synthesis of positivistic and phenomenological positions with respect to 'time' is thereby necessitated.

It may appear on the surface that such a synthesis of the temporal aspects of positivism and phenomenology is paradoxical, but upon further analysis it is apparent that these difficulties may be more apparent than real. In no way has the writer sought to challenge the validity of positivism and phenomenology as ideal types. Rather what was attempted was to show that in the "empirical" physical world it is essential to abstract those elements which enable the analysis to address the problems in that "real" observed world, in particular, the analysis of pragmatic and theoretical issues in music education.

It is appropriate at this point to summarize the assumptions which represent the 'synthetic' methodological paradigm derived in the preceding analysis. They are as follows:

1. An analysis of overt behaviour as well as introspection concerning that behaviour are necessary elements in research in music education.

2. It is essential to address the various integrative levels in turn, within the purview of a theoretical formulation in music education, i.e., the physical, biological, psychological, organizational, societo-cultural and historical levels. As Bolton (1959) notes, in many cases it is the social context which gives the physical and biological act its significance.

3. As both discursive and non-discursive symbols are present and operative, logic and reason as well as intuition are admissable forms of intellection.

4. Respecting causation, both the principle of determinism and that of relativism are operative. In the physical realm there is evidenced the principle of determinism, whereas in the social realm, the principle of relativism comes into play with increasing prominence as one ascends to higher integrative levels.

5. Respecting measurement capability, both subjectivity and objectivity must be contained within the analysis. This presupposes (after Zentner, 1976) not only logical tests of coherence, consistency and correspondence, but also moral tests of utility, consensus and authority.

6. Man may be viewed both atomically and holistically.

7. Respecting methodology, both "mensurative" and "generative" (attempts at "understanding") objectives are valid. Zentner (1976) notes the current difficulty in the lack of a "mature metric" in the social sciences and this doubtless constitutes one of the major

impediments to progress in social science research.[11] Obviously there is need for further research in this area.

8. A variety of time scales ranging from zero-order to time as infinitely variable or relative must be allowed. In practise, therefore, music education research should lean toward those research situations which enable the monitoring of the passage of time in the context of which the evidence is evaluated and an attempt is made to reconstruct the situation.[12] At every stage of the analysis the researcher remains an 'empiricist'.

The implications of the application of this suggested alternative paradigm to research in music education are far-reaching. In the place of a large number of short-run experiments, the tendency would be toward an emphasis on projects with a longer time line and on longitudinal studies. There would be a tightening of controls and evaluation procedures with respect to 'innovative projects'. Various new methodologies, i.e., participant observation, would be developed, with teachers playing a more direct role in the gathering of data for research purposes. Also, a number of themes or problems could be investigated which were heretofore largely excluded; problems such as the role of group processes in music education, or subjective approaches to phenomena such as 'empathy' in the instructional process. Such changes and new directions in music education research are warranted and long overdue.

FOOTNOTES TO CHAPTER II

[1]Mini (1974) in his treatise on Philosophy and Economics argues that traditionally economics has been premised on a set of idealized assumptions constituting a tautology in which the conclusions prove what is already in the premises. It constitutes a theory chosen and defended on a priori grounds. This approach appears to fly in the face of many popular myths concerning objectivity; most particularly, those myths of science which sociologists and other social scientists of the positivistic persuasion and their emulators find essential to their posture and image as social scientists. Mini claims that the traditional economic theory has its anchor in Cartesian philosophy, i.e., the balancing of pleasure and pain, propensity to trade and barter, and diminishing returns, all of which are 'idea bound'. The highest aspiration of classical economics is to develop well-rounded models and systems which exhibit the logical qualities of "elegance, symmetry, internal consistency and simplicity." He notes that "the process whereby a statement becomes or fails to become a law in economics is not empirical verification. The touchstone is heuristic usefulness" (Mini, 1974: 96). In noting the comparatively recent emphasis on positivism, Mini notes: "Testing is the last citadel into which the economic ego has withdrawn. But even here it cannot excape from itself for the hallmark of its creations (fictions) is that they cannot be so handled as to 'prove' anything" (Mini, 1974: 139). The economist in utilizing his ideal types has learned to divorce theoretical speculation from practical suggestions. It is apparent from the foregoing discussion, then, that to the economist an ideal type becomes a purely logical construct based upon certain idealized assumptions about reality.

[2]In his review of the role of ideal types in sociological theory, Martindale (1959) notes that contemporary formulations of the ideal type derive principally from Max Weber although he notes the prior contributions of others such as Dilthey. For Weber, an ideal type was a procedure by which historical materials were made useful for the purposes of science serving three principal uses; as devices for description, as implements for comparison and measurement and under special circumstances, as procedures for testing hypotheses. The ideal type was a conceptual tool. To Weber, an ideal type was not an hypothesis, a description, or a general concept. The two criteria for forming conceptual and observational materials into a type, for Weber, were objective possibility and adequate causation. Martindale notes Weber's ambiguity with respect to the delineation of these criteria.

Martindale goes on to further explicate the notion of the ideal type. He argues in the Weberian tradition that it is a conceptualization rather than reality. He defines the 'ideal type' as follows:

> An ideal type is formed by the one-sided accentuation of one or more points of view and by the synthesis of a great many diffuse, discrete, more-or-less present and occasionally absent concrete individual phenomena, which are arranged according to those one-sidedly emphasized viewpoints into a unified analytical construct. In its conceptual purity, this mental construct cannot be found anywhere in reality. (Martindale, 1959: 68)

Weber saw ideal types as devices to enable the grasp of causal relations and meanings in concrete social and historical phenomena. Thus they constituted an explanatory schema embodying a set of general empirical rules.

[3]Becker (Loomis and Loomis, 1965) developed the notion of a "constructed type" which was his chief methodological tool. He used the word "constructed" because he felt the term "ideal" was misleading. He attempted to bring ideal/constructed types into line with "modern probability logic and with the logic of experimentation as well." He thus sought to render them capable of portraying quantified data. He sought to establish marginal ideal types at the maximum and minimum points which would establish the necessary conceptual limit in each direction, and then to work from these two points of reference. He argued that ideal types had predictive power. Further the constructed type never included all particular cases. It constituted an "heuristic construct".

[4]Vernon (1973) sketches the use of the ideal type in psychology. He argues that an ideal type is a "generalization . . regarding the way in which various phenomena interact dynamically" (Vernon, 1973: 130). Not all individuals, he claims, manifest all the characteristics of a type. He proposes that the ideal type is similar to a stereotype and that it typifies the way we normally think and helps us to classify people we meet. It is apparent that what has been construed as a stereotype in psychology has its counterpart in sociology as the ideal type.

[5]Fritz Machlup in his article, "Homo Oeconomicus and His Class Mates" (1970) argues for the validity of the ideal type 'economic man'. He also gives anecdotal examples of various other ideal types, among them 'homo cholericus', 'homo caritativus', 'homo alcoholicus', 'homo amorosus', 'homo traditionalis', 'homo politicus'.

[6]All the great systematic sociological theorists, such as Parsons, Becker, Sorokin, and others have postulated such an hierarchy of levels of integration. (See Loomis and Loomis, op. cit. passim). The political geographer Alastair Taylor (1975) has a similar view. In his article, "Systems Approach to the Political Organization of Space" he notes a hierarchical organization in terms of organizational complexity present in nature. He argues that social systems are organized in a similar fashion. He lists the following uniformities

found among 'integrative levels' as follows:

1. Each level organizes the level below it plus one or more emergent properties; consequently the integrative levels are cumulative upwards.

2. The mechanism of an organization is found at the level below, its direction at the level above.

3. The higher the level, the greater its variety of characteristics, the smaller its population. This is accounted for by the increase in the number of emergent properties, and the fact that a given unit is composed of subordinate units.

4. Since each level has its own characteristic structure and properties, the reorganization of a system at a lower(simpler) level involves structural change and loss of properties. (Taylor, 1975: 14)

[7]Zentner argues that types of transcendence enter into human behaviour as historically and culturally relative causal determinants. This historical and cultural relativity explains why myths, paradigms and ideal type constructs undergo cyclical obsolescence, change and regeneration.

[8]It will be argued in Chapter III that the musical symbol is phenomenologically construed. Thus the construction of ideal types which are applicable to music education must be construed, in part, phenomenologically. Therefore we must expect that if an ideal type is to be phenomenologically construed, it must be verified by methods which are consonant with the manner of its formulation. Here lies a basic reason why Mini argues, for example, that economic theory cannot be verified by positivistic research alone. It must include phenomenological investigation. Similarly, in music education.

[9]A 'paradigm' is a limited "world view" respecting a given set of subject matter or given categories of subject matter, It is distinguished not only by definitions of reality concerning the phenomenon in questions but equally concerning methods of observation, apprehension and understanding. For a typical usage of the term 'paradigm' in sociology, the reader is referred to T.S. Kuhn, The Structure of Scientific Revolutions, 2nd. Edn. (Chicago: University of Chicago Press, 1970). Andrew Effrat (1972: 8) suggests that:

> While Kuhn does not provide a particularly clear-cut definition, 'paradigm' seems to refer to a theoretical system or perspective that includes: (1) an indication of what are important and researchable questions or problems; (2) general explanatory principles or answers to these questions; (3) 'praxis-oriented exemplars' and models for conceptualizing and solving scientific puzzles; (4) criteria for what are appropriate data, methodologies

and instruments; and (5) an axeology (or value orientations), epistemology and ontology that underlie all of the above.

[10]Among these MacIver (1964: 24) develops the thesis that there are various levels of causation consonant with various levels of complexity of data which are intrinsically different at each succeeding level of complexity of data. He argues, further, that logical and normative considerations must also be considered along with the continua of complexity of data.

[11]Further, in arguing that ideal types serve a "mediating function as between mythologically and scientifically apprehended truths and realities," Zentner implicitly recognizes the role of the ideal type as a methodology appropriate to the synthesis of elements of positivism and phenomenology.

[12]In this connection the historical method may have significance as a useful approach to research. Arthur Childs (1957) develops five ideal types of ways by which history may be conceived. The present writer accepts the notion of history as <u>reconstruction</u> by which:

> Some of the past does survive, and history uses the surviving facts, but many do not survive; and there, reasoning from what evidence he can find, the historian must resort to imitation. By the joint enterprise of recovery and imitation, he reconstructs the structure of the past - and, of course, so much as he can of the sensible appearance that surrounded the structure. (Childs, 1957: 11)

In one sense such a process is inseparable from the creativity of the researcher as the <u>facts</u> he perceives are a function, in part, of his 'assumptive frame of reference'.

CHAPTER III

AN ANALYSIS OF THE STRUCTURAL ASSUMPTIONS IN MUSIC EDUCATION

Four highly generalized and logically inclusive sets of structural assumptions are examined in the body of this chapter. These may be designated as follows:

A. Assumptions concerning the nature of the musical symbol.

B. Assumptions concerning the relationship between aesthetic and affective responses to music.

C. Assumptions concerning the nature of music per se.

D. Assumptions concerning the proper description of the musical event.

Structural assumptions are here defined as those assumptions having to do with the structure of music and its nature per se, as well as with the nature of musical experience. It is assumed here that structural considerations are a basic element in any analysis of assumptions underlying music education. For the purpose of this analysis, psychological considerations are sub-sumed under structural considerations, because the psychological process in the musical event is intimately linked with the music itself. This matter will be discussed in greater detail in the ensuing analysis.

ASSUMPTIONS CONCERNING THE NATURE OF THE MUSICAL SYMBOL

There have been many persons who have influenced philosophical thought in music. Prominent among such writers in recent decades has

been Susanne K. Langer. Her philosophical formulations (Langer, 1948, 1953) have had a profound impact on current philosophical discussions in music education. It has been said that she is "far ahead of the comparable works by musical investigators" (Epperson, 1967: viii).

Langer's key contribution in her earlier work, Philosophy in a New Key, is in the recognition that there are various types of symbolism. She argues that man's need for symbolism is a feature which distinguishes him from animals. Symbolization precedes thought and accounts for emotional expression, art, religion, etc. As long as one assumes that verbal language is the only means of articulating thought (and this includes mathematical and scientific symbols), then everything that is not 'speakable thought' must, by definition, be feeling. A discursive symbol, then is one which can be articulated by verbal language. However, if one admits that there are other kinds of symbols which make their own abstractions and which dictate their own forms of conception, then one opens the door to the presence of what Langer chooses to term 'non-discursive' or 'presentational' symbols. She writes: "Music articulates forms which language cannot set forth" (Langer, 1948: 189). And again:

> Music has all the earmarks of a true symbolism except one- the existence of an assigned connotation. It is a form that is capable of connotation and the means to which it is amenable are articulations of emotive . . . experiences. But its import is never fixed. (Langer, 1948: 195)

Langer argues that some effects of music are like feelings, and we may mistake them as such. Further, she argues that while emotion may be experienced in the contemplation or production of an artistic work, this should not be confused with the structure. An artistic symbol has more than 'discursive' or 'presentational' meaning - it has

implicit meaning which she describes as follows:

> An artistic symbol . . . has more than discursive or presentational meaning; its form as such as a sensory phenomenon has what I have called 'implicit' meaning, like rite and myth, but of a more catholic sort. It has tertiary subject matter . . subject matter imaginatively experienced in the work of art . . something which cannot be apprehended apart from the work though theoretically distinguishable from its expressiveness. (Langer, 1948: 213)

It should be pointed out at this stage that she defines a symbol as "any device whereby we are enabled to make an abstraction" (Langer, 1953: xi). It is important to note that in Philosophy in a New Key, Langer had distinguished signs and symbols. Signs act as cues to the symbol itself; the symbol having deeper significance and implied meaning. For example, in her formulation, musical notation would be regarded as 'signs', as the notes act as cues to the symbol itself, i.e., the performance or the appreciation of a given piece of music. In this case, the music itself would become the symbol.

It is to a consideration of Langer's later formulation with respect to the nature and meaning of the musical symbol, in her work Feeling and Form, that we now turn. In the following discussions in Feeling and Form, she is chiefly concerned with questions relative to the symbolic nature of music, not so much with questions relative to the signs used.

Langer argues that music has a type of 'meaning'. She prefers to refer to it as 'vital import'. She uses the term 'meaning' to denote those symbols which can be expressed discursively, and the term 'vital import' where symbols are expressed non-discursively.

She develops the argument that music is 'significant form' and further, that 'significant form' is the essence of every art. She

writes:

> . . . music is 'significant form' and its significance is that of a symbol, a higly articulated sensuous object which by virtue of its dynamic structure can express the forms of vital experience which language is peculiarly unfit to convey. Feeling, life, motion and emotion constitute its import. (Langer, 1953: 32)

And again:

> The basic concept is the articulate but non-discursive form having import without conventional reference, and therefore presenting itself not as a symbol in the ordinary sense, but as a 'significant form' in which the factor of significance is not logically discriminated, but is felt as a quality rather than recognized as a function. (Langer, 1953: 32)

Langer further expands on her concept of a "highly articulated sensuous object" referred to above, as follows:

> Its parts (i.e., the parts of music) not only fuse together to yield a greater entity, but in so doing they maintain some degree of separate existence and the sensuous character of each element is affected by its function in the complex whole. This means that the greater entity we call a composition is not merely produced by mixture . . . but is articulated, i.e., its internal structure is given to our perception. (Langer, 1953: 31)

Langer also develops the notion that music is an expression of feeling. She writes:

> The tonal structures we call music bear a close logical similarity to the forms of human feeling - forms of growth, attenuation, flowing and stowing, conflict and resolution, speed, arrest, terrific excitement, calm . . . Music is a tonal analogue of emotive life. (Langer, 1953: 27)

In Langer's formulation, technique is "the means to the creation of expressive form, the symbol of sentience." It involves the application of human skill in the creation of the symbol. The structure of music is the vehicle by which the artist creates the 'symbol of sentience'. Langer defines this as "something which emerges from the arrangement of tones . . . which was not there before" (Langer, 1953: 40). In her previous work, Philosophy in a New Key, Langer had

referred to this extra 'X' factor which was communicated through music. It appears that this additional 'X' factor is the product of the listener's extrapolation from the sensory stimuli. Further, it is also apparent that this line of analysis allows for the possibility of a variety of technical abilities on the part of both a composer or performer in communicating with an audience. It also allows for a differential 'X' factor which the music arouses in any given listener. Thus the 'symbol of sentience', to use Langer's terminology, may be apparent in varying degree according to the differential abilities of composers, performers and/or listeners.

An essential facet of Langer's analysis of the musical symbol is her discussion of its quality of "otherness". She argues that this quality is basic and it is the artist's task to achieve it. She writes:

> To produce and sustain the essential illusion, set it off clearly from the surrounding world of actuality, and articulate its form to the point where it coincides unmistakably with forms of feeling and living, is the artist's task. (Langer, 1953: 68)

By using the term 'illusion', Langer does not imply any species of delusion, but rather that the music is set apart from the real world and becomes 'real' or 'virtual' in the mind of the listener, i.e., the symbol takes on an image, filling time and space and as being perceived through the ear.

Langer argues that the air of illusion about an art appears as a very real thing. She writes:

> Every real work of art has a tendency to appear thus dissociated from its mundane environment. The most immediate impression it creates is one of 'otherness' from reality - the impression of an illusion enfolding the thing, action, statement or flow of sound that constitutes the work . . this

> air of illusion, of being a sheer image, exists as forcibly as in the most deceptive picture or the most plausible narrative. (Langer, 1953: 45)

Further, she states: "This detachment from actuality, the 'otherness' . . . is a crucial factor, indicative of the very nature of art" (Langer, 1953: 46). She argues that the reason for the necessity of 'otherness' in art is as follows:

> An articulate form, . . . must be clearly given and understood before it can convey any import expecially where there is no conventional reference whereby the import is assigned to it as its unequivocal meaning, but the congruence of the symbolic form and the form of some vital experience must be directly perceived by the force of Gestalt alone. Hence the paramount importance of abstracting the form, banning all irrelevancies that might obscure its logic and expecially divesting it of all its usual meanings so it may be open to new ones. The first thing is to estrange it from actuality, to give it 'otherness', 'self sufficiency'. This is done by creating a realm of illusion, . . . (Langer, 1953: 56,60)

The symbolic import permeates the whole structure of music. Langer writes: "Art is expressive through and through - every line, every sound, every gesture; and therefore it is a hundred per cent symbolic" (Langer, 1953: 59). Further, she states:

> The import of an art symbol . . . must be seen in toto first; that is, the 'understanding' of a work of art begins with an intuition of the whole presented feeling. Contemplation then gradually reveals the complexities of the piece and its import. In discourse, meaning is synthetically construed by a succession of intuitions; but in art the complex whole is seen or anticipated first. (Langer, 1953: 397)

In considering a work that requires an appreciable length of time for complete physical perception, i.e., a musical piece, it is in Langer's view, the composer's task "to imply at the outset, the scope and vital import of the whole. If his imagination of the piece is clear, that task is usually met unconsciously; and the 'lure of feeling' . . . is established almost at once" (Langer, 1953: 397).

Langer distinguishes actual time and space from virtual time

and space. She conceives of music as occupying virtual time primarily, and virtual space secondarily. In discussing the concept of virtual time, she writes:

> The semblance of this vital, experiential time is the primary illusion of music. All music creates an order of virtual time, in which its sonorous forms move in relation to each other - always and only to each other, for nothing else exists there. Virtual time is as separate from the sequence of actual happenings as virtual space from actual space. (Langer, 1953: 109)

She cites a number of differences between virtual time and actual time:

> In the first place it is entirely perceptible through the agency of a single sense - hearing. There is no supplementing of one sort of experience by another. This alone makes it something quite different from our 'common-sense' version of time, which is even more composite, heterogeneous and fragmentary than our similar sense of space. Inward tensions and outward changes, heart beats and clocks, daylight and routines and weariness furnish various incoherent temporal data. . . But music spreads out time for our direct and complete apprehension, by letting our hearing monopolize it - organize, fill and shape it, all alone . . . music makes time audible, and its form and continuity sensible. (Langer, 1953: 110)

And again:

> The second radical divergence of virtual time from actual lies in its very structure, its logical pattern, which is not the one-dimensional order we assume for practical purposes (including all historical and scientific purposes). The virtual time created in music is an image of time in a different mode, i.e., happening to have different terms and relations. (Langer, 1953: 111)

Langer acknowledges that a number of writers have referred to musical space. She believes the concept of virtual space derives from harmony rather than from either movement or fulness of tone. But she argues that "the space of music is never made wholly perceptible as the fabric of virtual time is; it is really an attribute of musical time, an appearance that serves to develop the temporal realm in more than one dimension. Space in music is a secondary illusion" (Langer, 1953: 117).

Criticisms of Langer's Thesis

Having examined Langer's ideas with respect to the nature of the musical symbol, it is appropriate to turn to a consideration of statements by other notable scholars. Among the criticisms of her work by persons of note and distinction, are those of Gordon Epperson.

In his historical review of philosophic theories of music, he discusses Langer's formulation of virtual time in music. He argues that Langer has oversimplified the musical experience:

> In her zeal to separate the realms of the actual and the virtual, Langer fails to do justice to the dynamic interplay between them, the constant shifts, the gradations 'in and out' of time: the organic fusion of conceptual and actual. The very limiting of the domain of the art symbol - the expressive form - to 'emotive life' is an oversimplification; the component of mind in the symbol is equally important. Her theory does not give us enough information; she establishes categories but she does not measure intensities. (Epperson, 1967: 246)

He further writes:

> Langer's failure to distinguish gradations in artistic apprehension or in works of vital import is also a failure to provide any kind of yardstick for making comparative judgements concerning particular compositions. (Epperson, 1967: 246)

Epperson's characterization of Langer's concept of virtual time as being an oversimplification has some merit. It appears, however, that Langer is more concerned with the explication of the musical symbol itself rather than a description of the musical experience or the experience of that symbol. Epperson does not emphasize this distinction.

It should be noted, however, that there are interactions between actual and virtual time, and in an analysis of musical experience these relationships should be accounted for. One might offer a defence of her position as follows: Langer does argue that the ability to convey

symbolic meaning rests in the composer's technique. The more refined the composer's technique, the more compelling the illusion and the less likely the interplay between actual time and virtual time. The listener, then, is wholly absorbed in the musical event and there is a minimal awareness of actual time. Langer recognizes that the responsiveness of the listener is an important factor in determining the extent to which the musical symbol is comprehended by the listener. Therefore, it follows from her argument that differences in degrees of virtuality could conceivably exist. The following continuum may be proposed: At the one extreme polar point, there is a minimal awareness of actual time, a total absorption in the music, a focus on virtual time which appears short; at the other extreme polar point, there is a maximum awareness of actual time, a total disinterest in the music, and a focus on actual time where virtual time appears long. A given piece of music could conceivably arouse responses anywhere along the above continuum.

Epperson appears preoccupied with the necessity to provide conceptual yardsticks to enable people to make comparative judgements of a particular composition. In so arguing, it appears that he misses Langer's principal contention, namely, that the musical experience is a subjective one and that completely objective comparisons, therefore, become impossible. If one accepts the notion that a symbol must be recognized by a person to whom it is communicated, then the success of the composer is determined in some measure by the degree to which the symbolic nature of music is apprehended by the listener. Langer does not imply that this is a purely emotional symbol implying solely an emotional response, as Epperson appears to believe she does. But rather, Langer holds that musical communication operates as a non-discursive

symbolic process. The background of the listener and his understanding of what the composer is trying to accomplish must be taken into account in conjunction with the musical symbol itself. And if one accepts this argument, one is then involved in subjective judgements.

Still other criticisms of Langer have been proposed. One such criticism is that levelled by Hanshumaker (1973). In his discussion of Bennett Reimer's book, A Philosophy of Music Education, (Reimer, 1970), he has questioned the use of the word 'presentational' symbol as used by Langer to describe the musical symbol. He argues that music cannot be treated similarly to art because music is perceived through time and does not make an impact immediately as does an art piece or sculpture. Hanshumaker's argument implies that Langer does not recognize that the parts of music may be defined independently of the whole, or that their meaning may be altered or augmented in some way, when the part is in the whole. As has been seen above, she does in fact recognize the possibility of such whole versus part relationships in music. She further admits that a work involving an appreciable length of time for complete physical perception must necessitate the composer implying the scope and vital import of the whole, at the outset, and then luring the listener on.

Cooke (1959) and Coker (1972) develop arguments in which they extend the notion that music employs a language of its own. By a large number of examples they attempt to substantiate the idea that quite specific musical statements are indicative of various emotions. While Langer's formulation allows that music is a non-discursive symbol, yet the expressions which music may communicate are gross in degree. Thus some care must be exercised in this type of approach. In terms of

Langer's distinction between signs and symbols, it appears that what Cooke and Coker are discussing are the signs in music, rather than the larger symbol itself.

A number of further arguments may be brought to bear upon the Langer formulation. It appears that Langer's argument does not lay sufficient stress on the fact that some composers are less constrained to convey an emotional mood or ideas about it, but instead become distracted by structural variations on a theme. Thus they appeal rather to the cognitive dimension than to the emotional response. It is therefore appropriate to argue that in this respect, music is analogous to literature. Just as some literature depicts tragedy and emphasizes serious aspects of life, while other literature may be categorized as comedy and is akin in many respects to "games", so music may be similarly categorized. Some music may be classified as 'tragedy' while other music may be classified as 'comedy'. For example, the Beethoven symphonies may well be classified as 'tragedy', whereas the aleatoric music of Cage, for instance, may be classified as 'comedy'.

Further, the Langer formulation does not account for a certain degree of 'conditioning' which is necessary in order for given stimuli to elicit certain responses. For example, the way in which given responses to music develop, and the reasons why they develop in varying degree, are not discussed by Langer. It is appropriate at this point to develop a further general analysis which will place the musical event, as Langer develops it, in perspective, both historically and sociologically. It is this placing of the musical event in such a larger socio-cultural perspective which appears to constitute an important new analytical thrust and which is grounded in the extensive socio-

cultural and historical analyses of cyclical fluctuations in Western society undertaken by the sociologist P.A. Sorokin.

It is of interest to consider Sorokin's notion of social time and social space in this context. Sorokin assumed that there was a possible realm of meaning outside physical sense and that the two dimensions of space and time had counterparts in social space and social time. Zentner (1972) develops a penetrating analysis of Sorokin's ideas of social space and social time in his essay, "Sorokin's Analysis of Time and Space". For a detailed treatment of Sorokin's ideas, the reader is referred to that essay.

Sorokin considered that history had exhibited cyclical swings, which have arisen out of the operation of a fluctuation between the 'sensate' and the 'ideational' polarities. The sensate phase is a period of change-orientation and concern is with sensory phenomena, whereas the ideational is a period of stability and social concern is with the 'eternal verities' and transcendent values. Obviously, then, the point in social time and social space in which the musical event occurs affects the nature of the musical event. The argument may be represented diagrammatically in Figure 1. In this formulation, the nature of A at time t_1 will not be equivalent to A at times t or t_2, i.e.,

$$A_t \neq A_{t_1} \neq A_{t_2}$$

where A represents the musical event. It follows logically that variations in such elements as taste in music, both over time, and among different groups at the same time, or in different social strata, must affect the musical event and its significance.

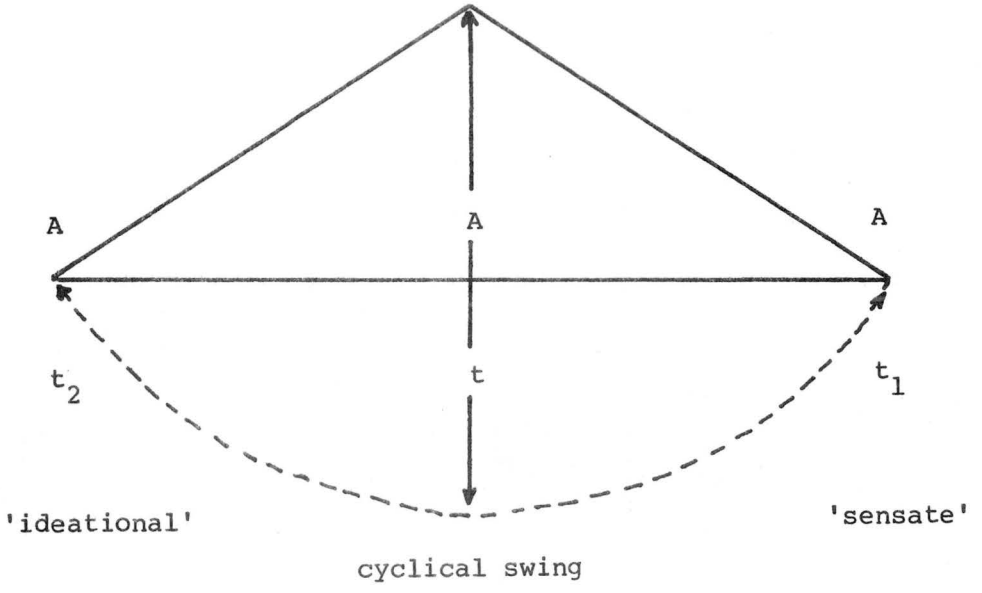

Figure 1

The Socio-Musical Cyclical Swing Between the Ideational and Sensate Polarities

Sorokin did not see space and time as interrelated, but as discrete variables (Zentner, 1972: Epilogue). Langer's formulation likewise indicates some recognition of the possible connection between virtual space and virtual time, but it appears that she also sees the two as discrete variables, with elements of music in terms of virtual time giving the impression of musical spaciousness or virtual space. Zentner's particular contribution to this question is in the notion that space and time are not discrete, but rather interrelated and interdeterminate. He develops the notion of social space as being a function of position in social time and vice versa (Zentner, 1973: 110). If such a position is accepted, it follows that virtual time and virtual space are interrelated and interdeterminate. Further, the Langerian view of virtual space in music being a secondary illusion, therefore, becomes logically unacceptable.

If, then, one accepts the Zentnerian formulation of the essential interrelationship of space and time; and if one further assumes that such an analysis of social time and space in conjunction with virtual time and space is justified, then it should be possible to show that music exhibits cyclical movement in conjunction with cyclical movements in the social sphere.

The thesis that music reflects culture and in turn contributes to it has been advanced previously. For example, one such treatment is that of McKinney and Anderson (1940) who state that music "has a definite relationship to the political, economic and cultural conditions that surround the composers and practitioners." However, as with other like studies, the focus is on the musical questions rather than upon the direct relationship between the societies and the

music. Kenneth Clark's study of Civilization, while not an attempted academic account, is well documented and points to the relationship between the arts and culture (Clark, 1971). Another study aiming to demonstrate how the various arts have responded to socio-cultural conditions is that of Wold and Cykler (1958).

The thesis that music exhibits cyclical swings in relation to cyclical movements in culture, as the Sorokin formulation would imply, is not systematically documented. While it is not the purpose here to develop a detailed analysis of this thesis, it is appropriate to present certain lines of evidence which may present a case for or against the acceptance of this hypothesis.

The first argument is a logical one. Given that music is a reflection of a culture, and in turn contributes to it, then it follows that if cyclical swings can be identified in cultural terms, the consequent swings in music must follow. Further, at points identified as "sensate" phases, music should reflect these values, and at points identified as "ideational" phases, music should in turn reflect these values.

The second line of evidence is an indirect one. In her rather timid analysis of the relationship between social dance and society in England from the middle ages to the present day, Frances Rust's analysis stops short of what could have been a major contribution (Rust, 1969). In a well documented survey of social dance in England, she traces the types of dances and the associated musical expression with which these were interrelated. Her main conclusion was that dance is integrally linked with culture. But what the evidence she cites clearly shows, is, that in sensate phases the dance was revived and

became more uninhibited, while in the ideational phases the dance was suppressed or became less joyous and more inhibited. Her study shows that the dance, and the music with which it was closely linked, reflected cyclical swings in the culture and society.

The third line of evidence is by inspection of historical musical periods, and their relationship to cultural concomitants. Musical history may be divided into periods based on the notion that certain structural aspects are not shared through time, or can be classified in different categories. It is apparent by inspection, that with reference to the relationship between the character of music and the cultural concomitants, classical music (1750 - c.1830) and more particularly romantic music (c.1830 - c.1900) reflect a growing sensate phase. The music of the contemporary period (1900 on), reveals an even more rapid change orientation, and a rejection of traditional structures (i.e., harmonic forms, notation, etc.). If one compares this period to the period c.500 A.D. through 1000 where ideational values appear predominant, it is apparent that there is concern for maintaining traditional structures and forms, and of the predominance of sacred music as representative of music as an art form. It is apparent, therefore, that different periods of musical expression reflect the different polarities - sensate or ideational. The evidence cited above, then, suggests a case for accepting the hypothesis that cyclical movements in music move in conjunction with those in the social sphere.

To recapitulate, Assumptive Set A relating to assumptions concerning the nature of the musical symbol has focussed upon the nature of the musical symbol and attendant issues following from an

analysis of Langer's formulation. The limitations of her formulation have been noted, and it has been proposed that her analysis be articulated with reference to both Sorokin's and Zentner's formulations of space and time.

ASSUMPTIONS CONCERNING THE RELATIONSHIP BETWEEN AESTHETIC AND AFFECTIVE RESPONSES TO MUSIC

Bennett Reimer (1970) argues that music education is best conceived as aesthetic education. There appears to be agreement with him by his critics on this argument. It is necessary, however, to clarify what is meant by aesthetic experience. To what extent does it involve affective experience? Is it valid to distinguish affective and aesthetic experience? These questions will now be addressed.

In examining the nature of aesthetic experience, Langer develops the following alternative ideas. She claims that the only way in which the import of an art symbol (i.e., a work of art) can be known to anyone but its creator is by 'intuition' (Langer, 1953: 347, 375). She writes: "Every good work of art is beautiful; as soon as we find it so we have grasped its expressiveness, and until we do we have not seen it as good art, though we may have ample intellectual reason to believe it is so." And again:

> The entire qualification one must have for understanding art is responsiveness. This is primarily a natural gift, related to creative talent yet not the same thing. Like talent, where it exists in any measure, it may be heightened by experience or reduced by adverse agencies. Since it is intuitive it cannot be taught; but the free exercise of artistic intuition often depends on clearing the mind of intellectual prejudices and false conceptions that inhibit people's natural responsiveness. (Langer, 1953: 396)

Her explanation of the aesthetic experience is of interest. She writes:

> The exhilaration of a direct aesthetic experience indicates the depth of human mentality to which that experience goes. A work of art, or anything that affects us as art does, may be said to 'do something to us' though not in the usual sense which aestheticians rightly deny - giving us emotions or moods. What it does to us is to formulate our conceptions of feeling and our conceptions of visual, factual and audible reality together. It gives us forms of imagination and forms of feeling inseparably; that is to say, it clarifies and organizes intuition itself. (Langer, 1953: 397)

And again:

> That is why it has the force of a revelation, and inspires a feeling of deep intellectual satisfaction, though it elicits no conscious intellectual work (reasoning). Aesthetic intuition seizes the greatest form and therefore the main import at once; there is no need of working through lesser ideas . . . first without a vision of the whole . . . In art, it is the impact of the whole, the immediate revelation of vital import that acts as the psychological lure to long contemplation. (Langer, 1953: 397)

From this argument, Langer then goes on to elaborate the following notion of aesthetic education:

> Artistic training is, therefore, the <u>education of feeling</u>, as our usual schooling in factual subjects and logical skills such as mathematical 'figuring' . . . is the education of thought. Few people realize that the real education of emotion is not the 'conditioning' effected by social approval and disapproval, but the tacit, personal, illuminating contact with symbols of feeling. (Langer, 1953: 401)

Abraham Schwadron (1969) argues that aesthetic experience exhibits a number of significant differences from ordinary experience, e.g., it is fulfilled during the experience and is terminal; it involves an essentially active subject-object interaction; it is highly selective; and it involves 'presentational' symbolism. One may take issue with him with respect to these alleged differences. For example, some ordinary types of experiences are terminal; one may argue that in some respects, all experiences involve highly active subject-object interaction; and that ordinary experience is highly selective, i.e., we cannot attend to all incoming stimuli at any one

time. Thus the distinction between aesthetic and ordinary experience is not clear from Schwadron's analysis. He further argues that both affective and intellectual dimensions are involved in an aesthetic experience.

He supports Langer's contention that a problem results from the necessity of speaking metaphorically about music, and thus argues that by understanding the structure of music, students are in a better position to appreciate it, and thus develop 'aesthetic sensitivity'. He writes:

> If children were guided at various levels of maturity to experiment with time and tone, to create musical problems and solutions and thus to discover and understand the nature of communication in their own attempts as well as in the works of the masters, their perception of structural meaning would be enhanced considerably. (Schwadron, 1969: 121)

Schwadron thus sees aesthetic education as the development of an appreciation for the structural components of music, and an experiencing of the processes of creativity involved in the composition of music. By better understanding the medium, the student then becomes more aesthetically sensitive. His analysis implies a recognition that an intelligent understanding of the 'articulate form' (to use Langer's terminology) is necessary in order for a person to comprehend the 'import' of the musical symbol.

Reid (1973) in his review of Reimer's book, A Philosophy of Music Education, argues that aesthetic education is not concerned with the education of feeling. Rather it is directed to developing "discriminating aesthetic attention to works of art." Further, the intellectual and affective dimensions may be involved in differing degree. It should be noted that these dimensions are not here conceived

as mutually exclusive. Reid points out that it is important not to confuse the emotion in contemplation of a work with the content of that work itself. It appears that what he is alluding to here is the equation of an aesthetic response to music with a cognitive response.

As noted above, Langer does not deny the distinction between the emotions attendant upon a response to music and an aesthetic response. Further, it appears that she argues that a cognitive response may be implied in an aesthetic response, but it is in the manner of intellectual response, she argues, that it differs so radically from responses to a discursive symbol. As has been noted above, Langer's formulation does not allow sufficient attention to the situations where some composers are less constrained to convey an emotional mood, but instead are distracted by structural variations on a theme, thereby appealing chiefly to a cognitive response.

Revesz (1953) argues that the ability to enjoy music aesthetically (he labels this 'musicality'), should be distinguished from creative interpretative talent, aural abilities and affective responses. Kate Hevner (1937) similarly proposes that the affective accompaniment to an aesthetic response to music, gives that response importance and significance. Hevner feels that the aesthetic response to music is highly attentional with every detail being followed and "making the experience of it a forceful and vivid awareness. It involves a keen perception of the music's qualities, . . . without which its beauties may be completely lost." She argues that the feeling reaction is not so intense that it completely absorbs the listener's attention, but it may be sustained over a long period. It is the background of widespread and unlocalized bodily sensations,

especially from the involuntary muscles and viscera which gives the experience affective and emotional qualities.

Meyer (1967) and Shuter (1968) argue that the function of music is in the raising of expectations. To varying degree these expectations are fulfilled immediately, or alternately, deliberately thwarted until the composer fulfills them after a delay. The composer has some strategy by which he creates a series of tensions and release, or in terms of Langer's terminology, a series of 'lures of feeling' which lead the listener on. The form of the composition is so structured that tension and release are involved in creating the interest of the listener, or maintaining it during the passage of virtual time. In their view, the fulfillment of these expectations is an element of the pleasure associated with listening to music.

However, certain difficulties arise in connection with this view. First, the fulfillment of the listener's expectations may not be the main focus of the composer's interest, but rather the method by which the composer deliberately thwarts the listener's expectations. For example, the chordal structure in a choral work may be such that a resolution in the traditional sense in either a plagal or perfect cadence may be delayed as the composer becomes distracted by alternate chordal possibilities, finally ending on a traditional plagal cadence. In this case, the interest is rather in the 'method' than in the 'end', i.e., chordal resolution.

Second, the composer writes for an abstract audience, whereas the individual brings his particular and personally acquired taste and a series of expectations to the musical event. Therefore the composer may not succeed in fulfilling the individual's pre-conceived

expectations, yet the individual may appreciate the method whereby the composer has developed a structural strategy and resolved a series of tensions in some interesting or appropriate manner.

Third, in contemporary music, many previously held expectations are not satisfied, e.g., atonal music or serial music. Here the objective is not in chordal resolution in the traditional sense, whereas the listener may still have tastes which favour chordal resolution as previously accepted. In this case there is a lag between the composer's new idea and the listener's older preferences. For instance, the listener is expecting a certain traditional type of chordal resolution, which the composer deliberately avoids. Some composers go out of their way to ensure that there is such a lag. Calvin Tomkins, (1968: 107) quotes John Cage as follows: "But whenever I've found that what I'm doing has become pleasing, even to one person, I have redoubled my efforts to find the next step."

In this discussion it becomes obvious, therefore, that some music may arouse largely intellectual reactions, e.g., serial music (Pike, 1970), while other music may arouse largely emotional reactions, e.g., a traditional folk ballad or patriotic song. However, a musically educated audience may be greatly moved emotionally by a Haydn Mass and to a lesser extent by a simple popular song, whereas a musically illiterate audience (i.e., composed of people who either have little knowledge of classical music and/or little experience of it) may remain unmoved by the classical work and greatly moved emotionally by the popular song. This relates to the previous discussion in Assumptive Set A relative to the necessity of including a consideration of social time and space with any discussion of the musical event per se. The present

writer finds the Meyer and Shuter formulations inadequate to differentiate the affective and aesthetic reactions to music. While the creation of expectations may be a factor involved in either or both the affective and aesthetic reactions, they certainly cannot form an adequate base to explain the aesthetic experience.

Vernon (Shuter, 1968: 223) makes the point that there is:

> . . . no one standard experience which can be called the aesthetic but that it is a synthesis of all the various tendencies, different for every individual. It should include as many diverse elements as possible and it is the presence of over much attention to any one aspect (be it intellectual, emotional, gregarious or anything else) to the detriment of the whole that really contributes the non-aesthetic factor in music appreciation.

It may be noted in response to this statement that an aesthetic response to a given musical piece by any one individual may also be different in quality than the response to another musical piece. However the writer maintains that it is not possible to legislate the presence of the several aspects Vernon notes, for it is possible, in terms of Langer's formulation, that one or more elements may conceivably be out of alignment with the rest. This lack of alignment or focus on any one aspect does not militate against an aesthetic experience of music.

The writer is critical of the Langerian formulation of aesthetic experience with respect to her lack of emphasis on the cognitive processes which may be operative. In particular, exception is taken to the statement quoted above that aesthetic experience "inspires a feeling of deep intellectual satisfaction, though it elicits no conscious intellectual work (reasoning)." Further, it is not possible to accept Langer's argument concerning some of the implications of this formulation for aesthetic education.

On the basis of this discussion, it can be argued that the focus of music education is the development of aesthetic responsiveness; that a distinction may logically be made between aesthetic and affective experiences in relation to the musical event; and that the aesthetic experience is a variable one. An attempt has also been made to detail the Langerian formulation with respect to the nature of the aesthetic experience and to note some of the criticisms of it. It appears, however, that generally there is an interplay between affective and cognitive responses in an aesthetic experience.

ASSUMPTIONS CONCERNING THE NATURE OF MUSIC PER SE

The following assumptive set relates to the nature of music per se. First, let us consider the questions as to what constitutes music and whether there is a valid distinction between 'art' music and 'non-art' music. Dependent on these assumptions will be the educator's notion of what music is appropriate for music instruction and what music will assist in the achievement of the goal of aesthetic responsiveness.

The definitions as to what constitutes an appropriate definition of music are mixed. For example, Albersheim (1970) advances the notion that some music, i.e., aleatoric music, constitutes 'games', and is not a valid art form. He also criticizes attempts to introduce 'pop' music into school music programs, because he argues that this music is not art. On the other hand, Applebaum (1972) argues at the other extreme, that there is a danger in cluttering the definition of music, and it should be simply defined as "sound in time".

Difficulties arise where attempts are made to legislate what is a valid art form in music and what is not. Melly (1970) describes the rise of the Beatles in England, and labels popular music as the 'pop arts'. His study is a penetrating one, concerned with the way in which the rock music the Beatles sang became stylish and affected the other arts and fashions, e.g., clothing industry, art, life-styles.

In terms of the present writer's formulation, it may be re-iterated that the distinction between the polarities of 'comedy' and 'tragedy' may be drawn. This continuum enables a categorization of music into that more akin to games or comedy, and that more akin to tragedy.

Presumably there is some possibility that music may fall midway between the two extremes. Further, it may be argued that popular music or folk music, for example, may be performed artistically, and may be considered as art forms in terms of their own media. It may also be noted that in terms of social time and space, it is possible that in the contemporary historical period, a given type of music such as 'pop' music may be viewed as games or comedy and yet in historical retrospect may be seen as tragedy, i.e., as an expression of a particular age or as a stage in a civilization. The tragedy-comedy continuum prevents the error of limiting the concept of music as art and the problem of assigning categories of art and non-art music, on the one hand, and that of making so broad a definition that the distinctive qualities of music are not expressed within it, on the other hand. Applebaum's notion of music as "sound in time" could, if taken literally for example, express the sound of wind sighing in the trees or the sound of a train whistle, which is rather like saying

that art is paint on a canvass even if put there by a chimpanzee.

In this connection the present writer's working assumption is closely related to Applebaum's formulation, but represents an extension of it. Thus, music may be defined as the organized combination of sounds and silences through time. This definition, it may be noted, has the added virtue of giving place to and stressing the essential ingredient of assumptions concerning intention and purpose with respect to the organization of sounds and silences. It further allows the possibility of a distinction between virtual and real time as developed in the Langerian formulation. It also allows for cultural differences in the expression of music. The final product is a form of communication, whether it be between the composer and an audience other than himself, or as an act of self-expression of the composer, not designed specifically for an audience.

Following from the above endorsed working assumption, it follows that the range of music suitable for instructional purposes may be considerably broader than the traditional assumption may allow. This is not to say that there is no quality differential in the music used. Quality may be judged with respect to the internal logical functions of music, and in this case it has reference to the conventional rules of composition and performance extant in any one culture and at any given point in time. For example, Chinese music may be judged in terms of the appropriate media and composition rules, whereas Western music may be judged in terms of different criteria. A problem arises, however, because a new style may be introduced which rejects some of the previous 'rules' of composition and performance and yet may be accepted later as of high quality, e.g., the

introduction of the impressionist music of such composers as Debussy and Ravel was not immediately accepted by the protagonists of classical and romantic music.

Some consideration must be given to the question of form and function here involved. Form of music, in its general meaning, refers to questions of symmetry, balance and order. Function refers to such questions as university of appeal, artistry of composition, artistry of rendition and tonal beauty. Some would see a difference in complexity and intricacy of design as a determinant of quality. Concerning this, the present writer's position would be, that to assume that because a musical piece exhibits great intricacy and complexity, it is therefore of high quality, is a tenuous and unacceptable assumption. The function of music must be considered in conjunction with its form. Schubert's waltzes, for instance, are minute pieces, simple in structure, yet transparent and appealing in their simplicity. Their simplicity and melodic beauty cannot be compared with the large piano concerti exhibiting virtuostic passages appropriate to such a medium.

In the final analysis, it is argued that decisions with respect to quality in music, as Langer points out, are intrapersonal and interpersonal. It may be possible to identify elements of form or function in music which are out of balance or which are in conflict with each other and thereby to identify pieces of music which may exhibit greater quality than other pieces. However these may be comparisons in some gross degree. One must also consider the elements of time and space in any consideration of quality in music, and this makes any consideration of quality in music extremely relative.

Following from the present writer's above-stated definition of music, five elements may be identified as common to all music. It is assumed that all music exhibits these elements at various levels of complexity (Thomas, 1970). They are as follows:

1. Pitch
2. Rhythm
3. Timbre
4. Dynamics
5. Form

It is further postulated that this classification is mutually exclusive and exhaustive. It is to a consideration of these elements that we now turn.

Pitch

Pitch may be defined as the highness and lowness of sounds. Physically, it may be measured in terms of the number of cycles per second (c.p.s.). The discussion may be facilitated by reference to Figure 2.

Let t = the virtual time of a choral composition

p = a melodic line, e.g., the soprano line

h = the outer limit at the lower end of the spectrum of c.p.s., i.e., the bass line. It is here assumed that the combination of pitches are being sounded concurrently.

s = the virtual space through virtual time t.

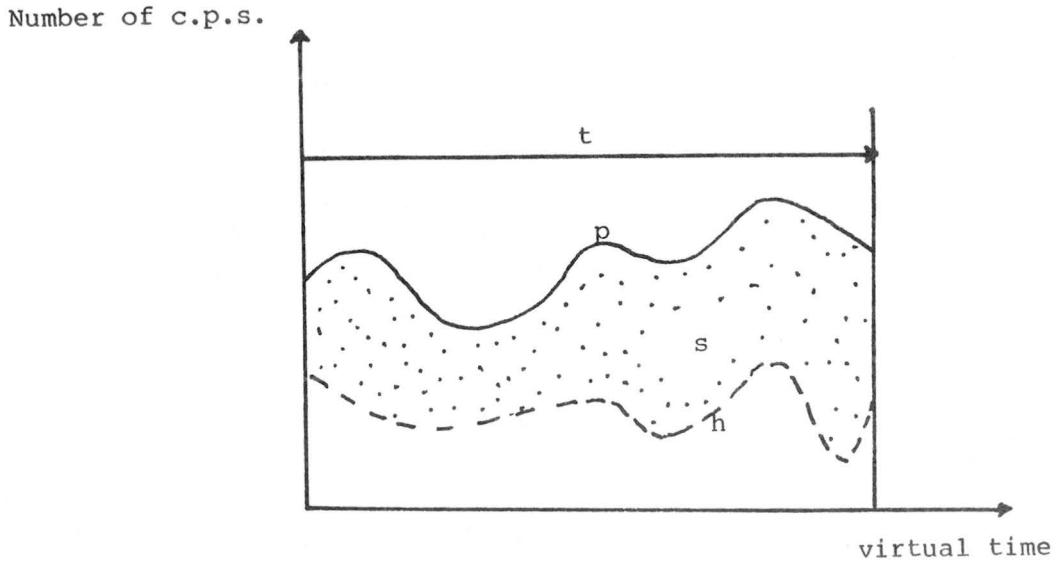

Figure 2

Pitch as a Function of Virtual Time and Space

It is apparent that line p taken alone constitutes an image different in nature from (p . . . h) which gives an apparent virtual space of s to the image. Harmony is subsumed under the definition of pitch, i.e., the combination of several sounds of differing rates of vibration sounded or notated to be sounded simultaneously. It should be noted, however, that the quality of the image may be drastically altered as the effect of several notes at differing vibration rates, sounded concurrently, is to change the intrinsic nature of the original note sounded alone. It is further argued that in all cultures, musical expression involves some pitch differences.

Rhythm

Rhythm may be defined as the movement of sound through time. It subsumes the function of tempo which expresses the speed of movement, beat and meter. All cultures exhibit some variations in the speed, or frequency of numbers and types of sound. The rules on how this is to be done vary dramatically from culture to culture. African music, for example, exhibits poly-rhythms, whereas Western music historically has had one rhythmic pattern, or at most, a few operating concurrently. Rhythm relates to both virtual space and virtual time. Consider Figure 3.

With respect to Figure 3a, an increase in tempo over virtual time t may contribute to the movement or passage of sound which is apparent through time and to an increase in excitement, i.e., it may seem, for example, that t_2 is longer than t_1 where t represents virtual time, and if the listener is particularly interested in the other factors operant in conjunction with the aspect of tempo.

Fig. 3a

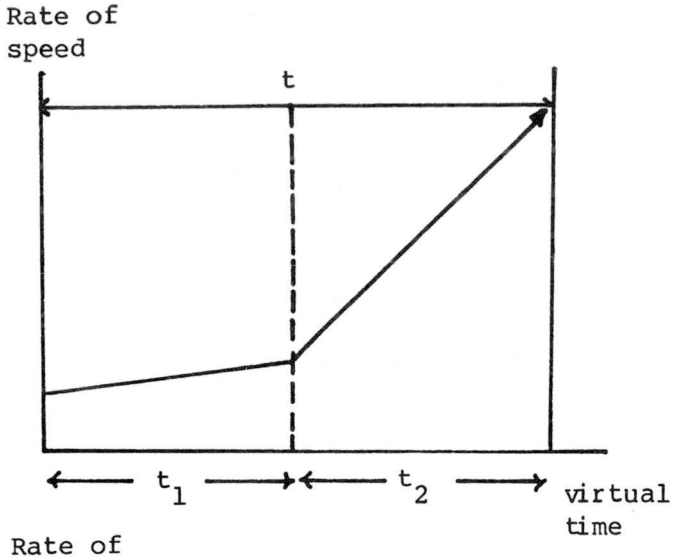

Fig. 3b

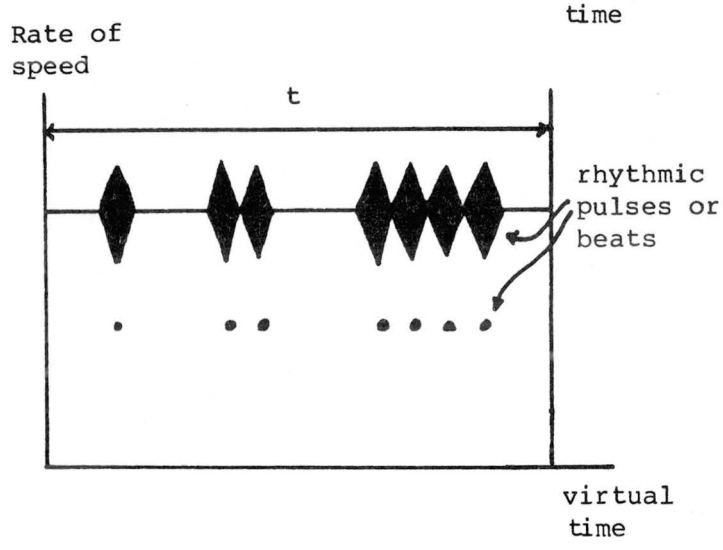

Figure 3

Rhythm as a Function of Virtual Time and Space

With respect to Figure 3b, one may consider rhythmic pulse or beats over virtual time t, and it may appear to the listener that there is a spacial dimension as the sound either punctuates silence (represented by the dots), or there are rhythmic beats against the background of a drone (represented by rhythm). Each rhythmic beat gives the illusion of space at the same time as it contributes to the movement of sound through time, i.e., virtual time.

Timbre

Timbre may be defined as the quality of sound. This varies with the number and nature of the overtones present in a given tone. For example, a flute has fewer overtones than an oboe. The oboe sound may be identified by the nature and number of overtones present. These remain relatively constant. Timbre may be analogous to redundancy in verbal discourse. There are speaking tones which we interpret as 'pleasant' and other speaking tones which we interpret as 'unpleasant'. These tones may give us clues as to how we interpret what the speaker is saying, and they may enhance or reduce the effectiveness of communication, but in the final analysis, we rely on the spoken word, i.e., discursive symbolism. Similarly a tone may be sounded which consists of a fundamental and no overtones. When subsequently, overtones are added, the tone takes on additional colour or interest. Alternatively, some tones may appear harsh in sound. Yet the basic tone is still present.

Timbre relates both to virtual time and virtual space. Consider Figure 4:

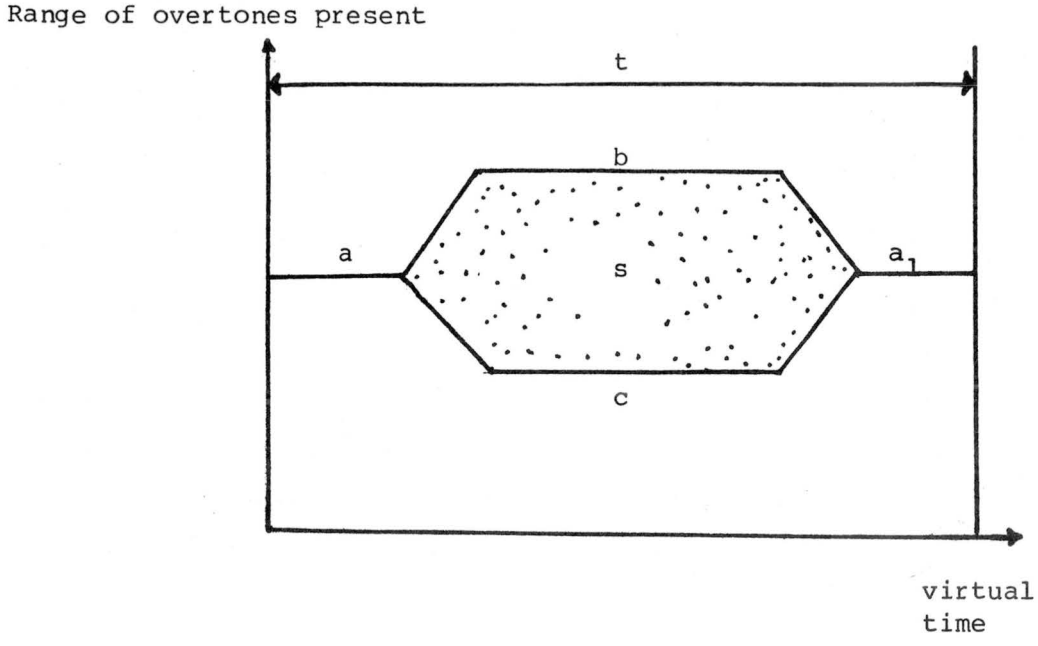

Figure 4

Timbre as a Function of Virtual Time and Space

Consider a piece of music played at a single pitch over virtual time t. At a, one instrument, e.g., a flute plays alone. Then b and c, additional timbres, e.g., oboe and violin, are added at the same pitch. At a_1 the flute then plays alone. This would imply that the virtual space expands from a to s and then decreases from s to a_1. With respect to virtual time, it would appear that changes in the timbral qualities and thereby in the virtual space increase the "otherness" of the musical illusion and act as a "lure of feeling" to lead the listener on. Such changes increase the effectiveness of the musical symbol, for if chosen carefully, they enhance the communication of that musical symbol. This is also another example of an application of Zentner's notion of the interdependance of socially and psychologically apprehended time and space. Thus timbre is a function of both virtual time and space.

Dynamics

Dynamics may be defined as the amplitude of the sound. It is the loudness and softness of the sound. Dynamic changes relate to virtual time and space in the following manner: Consider Figure 5.

At point a, at t_1, consider a tone commencing at a minimal level of intensity. At t_2 the tone is presently at a high level of intensity. At b at t_3 the tone is now at a minimal level of intensity. Thus the volume is greater at t_2 than at either t_1 or t_2. In this respect, it may be regarded as intimately connected with virtual space. It would appear that virtual space is at its maximum at t_2 and at its minimum at t_1 and t_3.

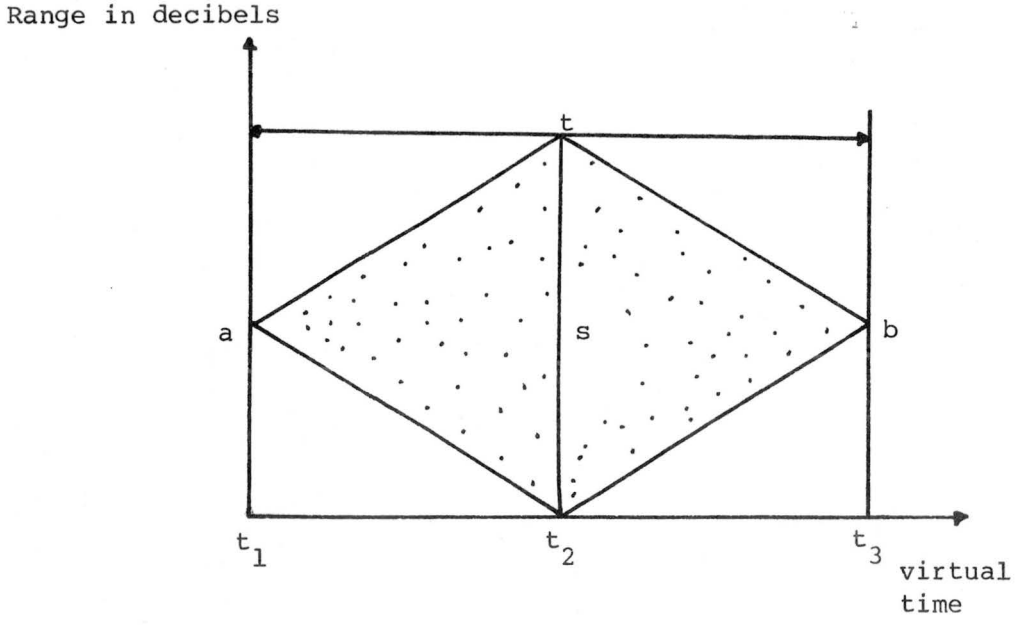

Figure 5

Dynamics as a Function of Virtual Time and Space

With regard to virtual time, dynamic changes contribute to the illusion of movement of music in time, i.e., virtual time. Where appropriately selected, dynamic levels contribute to the quality of "otherness" of the musical symbol. Thus dynamics are intimately related to both virtual space and virtual time, the latter being interrelated with each other.

Form

Form may be defined as the design of sound and non-sound through time. This may include a wide range of design - from aleatoric to traditional designs. It subsumes texture which is an expression of the form. Texture may be depicted analogically. Consider the close weave of a fine satin and the comparatively coarse weave in crochet or lace. Similarly in music one may describe a thin or sparse texture, or alternately a rather thick texture. One may compare for example, a choral work sung in four and eight parts over the same pitch range. This may be depicted diagrammatically. Consider Figures 6a and 6b: The texture of music in Figure 6b is obviously "thicker" than that in Figure 6a. Following from this, one may argue that the virtual space in Figure 6b may appear greater than that in Figure 6a, because the harmony is "richer" in Figure 6b and this may give the illusion of greater space. Thus the changes in texture in music over time may contribute to the illusion of movement in music through time and over space, i.e., virtual time and space.

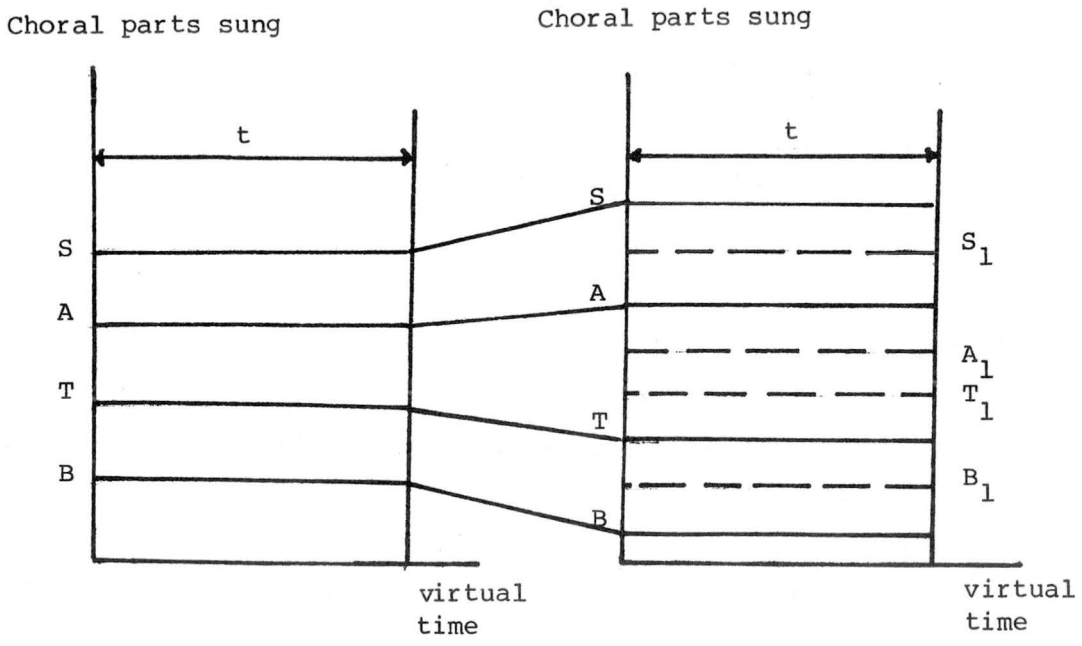

Fig. 6a

Fig. 6b

Figure 6

Texture as a Function of Virtual Time and Space

The design or form of music contributes to virtual time and space. Consider Figure 7: In this diagram, consider a choral work extending over virtual time t. At a, the sopranos enter alone, and at x the entire chorus and instrumental accompaniment enter. The form in this case contributes to a sense of virtual space, but also to an illusion of motion. The sense of tension and release, or the "lures of feeling" the composer devises, enable him to create a sense of "otherness" in the musical image and because of the complex linkages of virtual time and space, to thereby effectively communicate a non-discursive but highly articulate symbol. With respect to the above-cited example of the choral work, virtual time and space may also be quantitative extensions and factors as manifestations or illustrations of social time and space. The impact, for example, of one person or a few persons singing in choral work will be different than when the entire chorus and instrumentalists are singing and playing together. The sheer difference in numbers of people performing throughout the work has an impact on the perception of virtual space in particular. It may also contribute to the perception of virtual time, i.e., as it contributes to the apparent motion of sound through time.

The present writer believes that form is the basic element that unifies the other four elements. In the above analysis, the elements of music have been conceptualized with reference to the common elements of virtual time and space. However, they have each been described in isolation. When the five elements are combined, it is conceivable that in some respects the effect may be diminished or augmented, i.e., there is a <u>functional integration</u>. A slight change in one or more of the elements may have marked effects upon the whole.

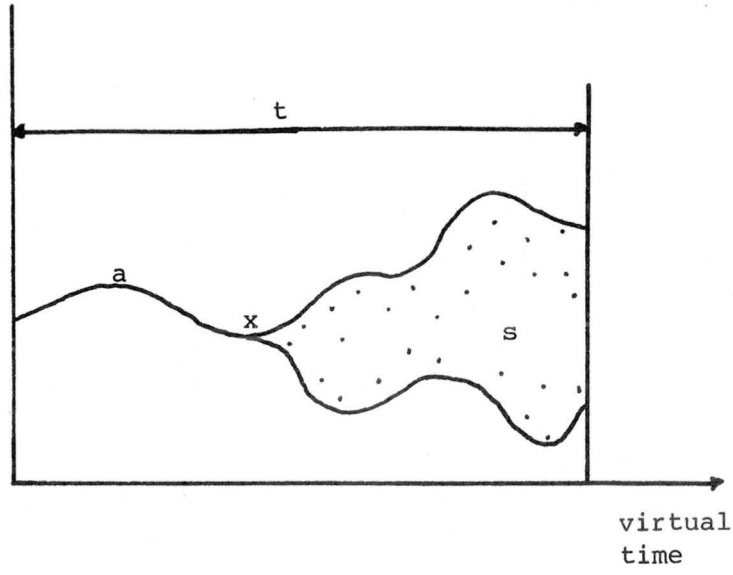

Figure 7

Form as a Function of Virtual Time and Space

If it is granted that the above classification is mutually exclusive and exhaustive, then it follows that the classification of elements could be used as a framework around which an awareness of the elements of music could be structured. To leave the argument here, however, makes the assumption that the sum of the parts of music is equal to the whole. This has been the traditional focus in music education. Having identified the elements of music, the student is not brought the step further, namely, to the point where the interrelationships between the elements are shown, and then further, where the work as a whole is appreciated. To make this further advance implies the assumption that the whole is greater than the sum of the parts. The present writer is accepting the latter assumption as it fits into the general context of this analysis. Having accepted Assumptive Set A above, it follows deductively that the whole of music is more than the sum of the parts.

Therefore with reference to Assumptive Set C, it is assumed that the distinction between art music and non-art music is not a valid one; that there are quality gradations in music which are subjectively and relatively ascertained; that five basic elements of music may be identified and that these may be related conceptually to virtual time and virtual space; and that the whole of music is greater than the sum of the parts.

ASSUMPTIONS CONCERNING THE PROPER DESCRIPTION OF THE MUSICAL EVENT

It is assumed in this set that there is a need to refine certain definitions presently in use in the music education field

within a theoretical framework. There are examples in the literature of a lack of rigor in the definition of terminology and of still other terms which have been borrowed from other fields and which have not been examined sufficiently with a view to assessing their merit in expressing the ideas appropriate to the field of music. This lack of clarity in definition has resulted in a reduced comparability of research findings and a certain amount of wastage of research effort (where different conceptualizations necessitate corresponding differing research approaches and instrumentation). In part, the difficulty in definition has arisen out of differing assumptions concerning the nature of the variables under examination.

It is impossible within the context of this study to develop definitions for the complete range of possible terms. Two terms have been selected for consideration, however, because they bear especially on the theoretical formulation under discussion. They are the following:

1. Appreciation
2. Musicianship

The assumptions underlying the explication of these definitions will become apparent as the analysis proceeds.

Appreciation

It is of interest to cite a number of definitions and references to 'appreciation' extant. The Oxford Dictionary, for example, defines appreciation as follows: ". . . to estimate aright; be sensitive to; esteem highly . . ." The Harvard Dictionary of Music, currently the most authoritative, defines music appreciation as follows:

> A type of musical training designed to develop the ability to listen intelligently to music. This type of music education is very common in the United States and Britain, but practically unknown in Germany and France . . The amateur listener has often demonstrated an analytic and critical facility quite the equal of that of many professional performers. The art of listening with 'activity of thought' which is the aim of appreciation courses can be demanding and as satisfying as performing.

Wing (1968), in his discussion of the appreciation tests which have been developed, uses the term to denote aesthetic responsiveness to music.

Appreciation is defined here by the present writer as the quality of aesthetic responsiveness to music. This concept will be seen to be somewhat similar to that of Revesz (1953), who calls it 'musicality', and to that of Wing (1968), cited above.

It is here assumed that the ability to appreciate music varies with individuals. It is further assumed that the ability to appreciate music at any given time (A_t) varies as a function of the 'musical aptitude' level (MA), the intelligence level (I), the acquired taste in musical preference (P), the music being listened to (M_t), the emotional-psychological-physical state of the person before listening (S_{t-1}), and the environment in which the music is being listened to (N_t). This may then be summarized as follows:

$$A_t \propto f\ (MA,\ I,\ P,\ M_t,\ S_{t-1},\ N_t)$$

In this formulation, which is derived conceptually, it is further assumed that A may vary over time and with respect to the above-mentioned variables. More specific assumptions inherent in the above formulation are:

a. This list is exhaustive and mutually exclusive.

b. It is appropriate to a single individual, as well as to

groups and societies.

c. The possibility of weighting of factors exists.

d. Certain variables vary radically over time while others remain relatively constant. The subscript t denotes those variables which alter radically from time to time for any one individual or group.

e. Intelligence, aptitude, environment, and a person's emotional-psychological-physical state affect A_t.

f. It is possible that self-other definitional conflicts may be possible, i.e.,the person may interpret his own emotional -psychological-physical state differently than an observer.

The implications of this formulation for measurement are of interest. A number of attempts have been made in this regard. Wing (1968) cites a number of attempts by psychological investigators, e.g., Trabue (1923) and Hevner (1931). He also develops his own test. Bullock (1971) has attempted the construction of a "Test of Musico-Aesthetic Attitude".

Two elements appear essential in gauging the 'appreciation' dimension, as defined here by the writer:

a. An index of physical responsiveness, viz., galvanic skin responses, pulse rate, etc.

b. An index of cognitive responsiveness, viz., expressed negative and positive reactions, verbalized emotional attitudes as the person perceives them, etc.

There is an urgent need for a more adequate taxonomy of the aesthetic and affective domains.

The Krathwohl "Taxonomy for the Affective Domain", cited by

Colwell (1970) as a possible model upon which a taxonomy appropriate to the area of music education might be developed, suffers from a number of methodological difficulties.

It involves only positive categories, and the categories are not mutually exclusive, as well as having certain other difficulties. If the foregoing assumptive sets A, B, and C are accepted, it follows that aesthetic responsiveness to music must be an important consideration for music education.

Musicianship

The Oxford Dictionary defines musicianship as "skill, insight into interpreting and performing music." Some confusion exists, for example, between the terms musicianship and virtuosity. It may be assumed that because a performer is a virtuoso, he also exhibits musicianship. Alternately it may be argued that musicianship cannot be measured because it is latent within a person, e.g., a person may have a poor technical facility in an instrument and then is unable to communicate the inner sensitivity to music which he may feel. Further, if musicianship is measured in terms of performance, the following difficulty may be cited: Consider the professional pianist who is injured in an accident and loses the use of his hands. If musicianship is a quality of performance, the pianist is no longer a musician, because he can no longer play the piano. It is conceivable, however, that he may be an excellent teacher, and may be able to communicate the inner sensitivity he has. But consider a person who has never studied music, and possesses no musical skills or a vocabulary to express his ideas about music. In the absence of any

other information, who can say whether or not he possesses musicianship?

These problems lead the present writer to adopt the following assumptions: First it is assumed that musicianship may be defined as the sensitivity to the musical idea and the ability to transmit this. In this definition, musicianship would include both appreciation and the ability to transmit this inner sensitivity in some form. This does not imply that the musical idea must be transmitted in terms of instrumental or vocal performance, but it may also be transmitted verbally, e.g., the ability to conceptualize ideas which convey metaphorically to the listener what the person feels inwardly. A good piano teacher may not be able to perform proficiently, but through suggestion, is able to convey to the student the inner sensitivity he has, and thus inspire in the student a corresponding sensitivity, expressed in performance. Technical facility aids or abets the communication of an individual's insight into the varied strategies with which to communicate; of the sensitivity to the musical phrase; of the sense of appropriateness of a given dynamic level; and so on.

Second, the present writer assumes that the judgement with respect to musicianship is an essentially subjective one. She maintains, however, that musicianship may be indicated:

a. by reference to the person's ability to transmit ideas discursively and metaphorically; or

b. by reference to the person's ability to transmit an inner sensitivity through performance, whether through vocal or instrumental media.

Primarily, we are distinguishing musicianship from appreciation in terms of the added dimension of transmission in musicianship.

In this connection two problems arise. First, with respect to the measurement of appreciation, the following question may be posed. The moment an individual indicates a response to a question, is he in transmitting his ideas through speech, thereby immediately indicating a level of musicianship? The answer to this question revolves around the nature of the question the individual is asked in each case. In consideration of an appreciation of good phrasing, as in the Wing test (Wing, 1968: 29), for example, the individual may be asked to identify the most appropriate phrase for a given musical example. This identifies the person's ability to recognize, judge, and respond sensitively to the given phrases. This may be an appropriate type of question for a test in appreciation. In terms of musicianship, the person may be asked to perform a phrase, or, in the context of a teaching situation (if he is unable to perform), to explain to a performer exactly how and why he wants a given phrase played. This is therefore a testing problem rather than a conceptual problem relating to the definitions of appreciation and musicianship.

The second problem relates to the case of the person who has no musical performance skills and no musical vocabulary with which to express his thoughts, Does he possess musicianship? The answer to this question is as follows: A test may be devised which minimizes the effect of training in terms of particular performance skills. Further, media such as voice may be used. If the person is not able to communicate, or is able to communicate at a minimal level, he may be said to possess little musicianship. But <u>this does not imply that he may not possess ability to appreciate music</u>.

The above analysis implies degrees of musicianship which may

be indicated by tests and measurements. Further, judgements of musicianship may also be necessarily subjective, and evaluators themselves may exhibit a lower degree of musicianship than the person they are evaluating. This results in potential problems in measurement which are here simply indicated and acknowledged, with no attempt to offer solutions.

It is evident, therefore, from the discussion relative to the proper description of the musical event, that there is a need to define the terminology used within the music education field. To this end, an attempt has been made to examine the definitions of two terms, namely, appreciation and musicianship. Appreciation has been defined as "the quality of aesthetic responsiveness to music" and musicianship has been defined as "the sensitivity to the musical idea and the ability to transmit this." Thus musicianship is composed of appreciation as here defined, plus the ability to transmit this.

Summary

Table 2 comprises a systematic list of assumptions which forms a summary of the preceding analysis respecting the Structural assumptions in music education. For ease of future reference, these are coded decimally. All assumptions prefixed by 3.0 are those assumptions covered in Chapter III, i.e., Structural assumptions.

Table 2

A Systematic Coded List of
Structural Assumptions

3.1 Assumptions Concerning the Nature of the Musical Symbol

3.101 Music is a non-discursive symbol, i.e., it does not have an assigned connotation and its import is never fixed. A symbol is "any device whereby we are enabled to make an abstraction."

3.102 Music has 'vital import', i.e., it has a type of meaning where symbols are expressed non-discursively.

3.103 Music has significant form, i.e., it is a highly articulated sensuous object.

3.104 Music is an expression of feeling.

3.105 Some composers may be less constrained to convey an emotional mood or ideas about it but instead appeal to the cognitive dimension, i.e., a continuum between "tragedy" and "comedy".

3.106 Technique is "the means to the creation of expressive form." It involves the application of human skill in the creation of the symbol.

3.107 The structure of music is the vehicle by which the artist creates the 'symbol of sentience', i.e., the X factor communicated through music which is the product of the listener's extrapolation from the sensory stimuli. This may be apparent in varying degree.

3.108 Some degree of conditioning is necessary in order for given stimuli to elicit certain responses.

3.109 Music is an 'illusion', i.e., it has a quality of "otherness" from the real world.

3.110 There is a distinction between actual and virtual time, and actual and virtual space. Music occupies virtual time and space.

3.111 There are interactions between virtual time and space during the musical event.

3.112 The more refined the composer's technique, the more compelling the illusion and the less interplay between actual and virtual time.

Table 2 Continued

3.1 Assumptions Concerning the Nature of the Musical Symbol

3.112 Similarly, there is a difference in the listener. Therefore there is a continuum between maximum awareness of actual time and minimum awareness of actual time during the musical event.

3.113 The musical experience is a subjective one and completely objective comparisons therefore become impossible. The background of the listener and his understanding of what the composer is doing must be taken into account in conjunction with the musical symbol itself.

3.114 The parts of music may be defined independently of the whole and their meaning may be altered or augmented in some way when the part is in the whole.

3.115 Virtual time and space are interrelated and inter-determinate.

3.116 Cyclical swings in social time and space may be identified.

3.117 The point in social time and space at which the musical event occurs affects its nature.

3.118 Music exhibits cyclical movement in conjunction with cyclical movements in the social sphere.

3.2 Assumptions Concerning the Relationship Between Aesthetic and Affective Responses to Music

3.201 The focus of music education is the development of aesthetic responsiveness.

3.202 A distinction may logically be made between aesthetic and affective experiences in relation to a musical event.

3.203 The aesthetic experience is a variable one. Generally there is an interplay between affective and intellectual responses but the degree and quality of this interplay must vary radically. Both the form and function of music must be taken into account.

3.204 The role of space and time must be considered in the evaluation of an aesthetic experience.

3.3 Assumptions Concerning the Nature of Music Per Se

3.301 Music is defined as the organized combination of sounds and silences through time.

3.3 Assumptions Concerning the Nature of Music Per Se

3.302 The final product is a form of aesthetic communication.

3.303 There are differences in musical expression through time and space.

3.304 There is not a valid distinction between art and non-art music, rather a continuum from "comedy" to "tragedy".

3.305 Quality of music may be judged with respect to the internal logical functions of music and in this case it has reference to the conventional rules of composition and performance extant in any one culture.

3.306 There are quality gradations in music which are subjectively and relatively ascertained.

3.307 In the evaluation of quality differentials in music, the function of music must be considered along with its form.

3.308 Decisions with respect to quality in music are intra-personal and interpersonal.

3.309 Five elements may be identified as common to all music, namely, pitch, rhythm, timbre, dynamics and form. Each of these may be defined with respect to virtual time and space.

3.310 The whole is greater than the sum of the parts of music.

3.4 Assumptions concerning the Proper Description of the Musical Event

3.401 There is a need to refine the definitions currently in use in music education in the description of the musical event.

3.402 Appreciation is defined as the quality of aesthetic responsiveness to music.

3.403 The ability to appreciate music varies with the individual.

3.404 The ability to appreciate music at any given time varies as a function of the musical aptitude level (MA), the intelligence level (I), the acquired taste in musical preference (P), the music being listened to (M_t), the psychological-emotional-physical state of the person before listening (S_{t-1}) and the environment in which the music is being listened to (N_t). Therefore,
$A_t \propto f\ (MA, I, P, M_t, S_{t-1}, N_t)$

Table 2 Continued

3.4 Assumptions Concerning the Proper Description of the Musical Event

3.405 Two elements appear essential in gauging the appreciation dimension:

a. index of physical responsiveness;
b. index of cognitive responsiveness.

3.406 Musicianship is defined as the sensitivity to the musical idea and the ability to transmit this inner sensitivity in some form.

3.407 The judgement with respect to musicianship is an essentially subjective one. Musicianship may be indicated by:

a. the individual's ability to transmit ideas discursively or metaphorically;
b. the person's ability to transmit an inner sensitivity through performance in a given media.

3.408 Musicianship is distinguished from appreciation in terms of the aspect of transmission of the inner sensitivity.

3.409 Appreciation and musicianship have central importance in evaluation in music education.

CHAPTER IV

AN ANALYSIS OF THE SOCIO-CULTURAL ASSUMPTIONS IN MUSIC EDUCATION

Three highly generalized and logically inclusive sets of socio-cultural assumptions are examined in the body of this chapter. These may be designated as follows:

A. Assumptions concerning the universality of music and 'spheres of validity'.

B. Assumptions concerning the cause and mode of formation of spheres of validity.

C. Assumptions concerning the operation and maintenance of spheres of validity and their associated socio-musical groups.

ASSUMPTIONS CONCERNING THE UNIVERSALITY OF MUSIC AND 'SPHERES OF VALIDITY'

It is here assumed that music is a universal phenomenon. It has been said:

> It appears as if art not only is one of the 'original' activities of man but represents one of the universals that characterize all humanity. (Etzkorn, 1973: 343)

Indeed, it seems reasonable to make this claim for music as a specialized art form. While musical expression appears in all known cultures, there is abundant evidence attesting to the great variety of inter- and intra-cultural differences, both in terms of the nature of music per se, and in the social organizations, in the context of which, music is experienced.

In analyzing this phenomenon, it is useful to develop Etzkorn's notion of a 'sphere of validity'. While he originally coined the phrase to refer specifically to art, the writer has chosen to assume that the term has appropriate reference to music also. A sphere of validity may be said to exist about a work of art, where, as he writes, "similar cognitive responses or meanings are evoked through a shared symbolism communicated by a work of art" (Etzkorn, 1973: 344). People outside this sphere of validity will not hold the same opinions relative to a work of art. Chinese music, for example, holds a certain musical and spiritual value to the Chinese which it would not hold for the native Canadian Caucasion.

This concept has been expressed somewhat differently by Silbermann (1963) and yet the essential meaning remains the same. He bases his analysis around the 'musical experience' or the act of creating or re-creating music. He argues that there is a reciprocal relationship between the musical experience of the "performer" or "composer" and the groups that consume the music. "Socio-musical" groups develop about this experience and "these groups are able to act in a specific manner in their capacity as organizations and their type is thus determined by reference to the types of action of which they are capable." What he means by a 'social group' is "a collection of individuals who are connected with one another through positive, complementary social relationships and are distinguishable from all other collections of individuals.

This 'sphere of validity' may be seen as extending over a culture or as applicable to a group of people within a given culture, i.e., a sub-culture or sub-cultural group. In this case, then, it is

theoretically admissable for a sphere of validity to be synonomous with a culture, or alternately, for an eclectic situation to obtain, admitting a number of spheres of validity to co-exist in any one culture at a given time.

In his study of the relationship of music and society in England, Wilfrid Mellers (1946) develops the thesis that there has been an evolution from a relatively homogeneous musical expression in the middle ages, to an eclectic situation in which a variety of forms are admitted. In the contemporary situation, he writes, "the people who make the art-music and the music the people make in their everyday lives no longer complement one another, as they did in the small homogeneous societies of the past" (Mellers, 1946: 10). He points to the growth of 'commercial music' in contemporary society and the substitution of commercially packaged music for the folk tradition.

Further, Mellers notes the essential unity of religious art-music and the popular folk music of the mediaeval times. He writes:

> Not only had the religious art-music of the middle ages and the popular folk music had many qualities, technical, and spiritual, in common; there was a continual interaction between them which is of crucial importance from both a sociological and musical point of view. (Mellers, 1946: 26)

He relates this essential unity to the fuedal order in which "cleric and peasant mutually succoured each other, one providing for the needs of the body, the other for the needs of the soul" (Mellers, 1946: 26). Winston Dunwell (1962: 31) makes a point with respect to this "essential unity" when he comments:

> By the end of the sixth century, the Church was as powerful in purely temporal matters, as any prince, and through the single-minded purpose of successive occupants of the Holy See, and through its power of excommunication . . . it could initiate policies whose reprocussions travelled far beyond their immediate time and place.

It is feasible that in a situation in which a variety of socio-musical groups exist, these may coalesce to form a sub-culture or sub-cultures. These groups or sub-cultures may be in competition with each other, or with the social 'mores' in existence in a society. Two relevant examples are Robert Stebbins' study of a Jazz community (Stebbins, 1964) and George Melly's study of the growth of the 'pop' culture in Britain (Melly, 1970).

In Western society, the 'pop' culture has become the predominant force for young people, particularly adolescents. On the other hand, the majority of music educators are oriented toward traditional musical forms. It is therefore possible that teacher and students may belong to different 'spheres of validity'. In this case, difficulties in communication or possible conflict situations may arise. Consider Figure 8. A teacher of music may be represented as being, or operating at point B, holding to one sphere of validity. Some given student, A, may be represented at a point outside B's sphere of validity. In the area labelled C, however, there is some overlapping. Here communication between A and B becomes theoretically possible. The music education process is fundamentally affected by this problem. Farnsworth (1950) has shown that musical taste appears to follow certain sociological laws. It assumes the attributes of a social process, and taste, accordingly, can be controlled, influenced and dictated. While musical fashion is a changeable phenomenon, Farnsworth claims that musical 'mores' change more slowly. "Snobbism" may be exhibited by individuals in a socio-musical group who listen to and participate in only one kind of music. A study by Mueller and Hevner (1942) is also based upon the assumption that "the development

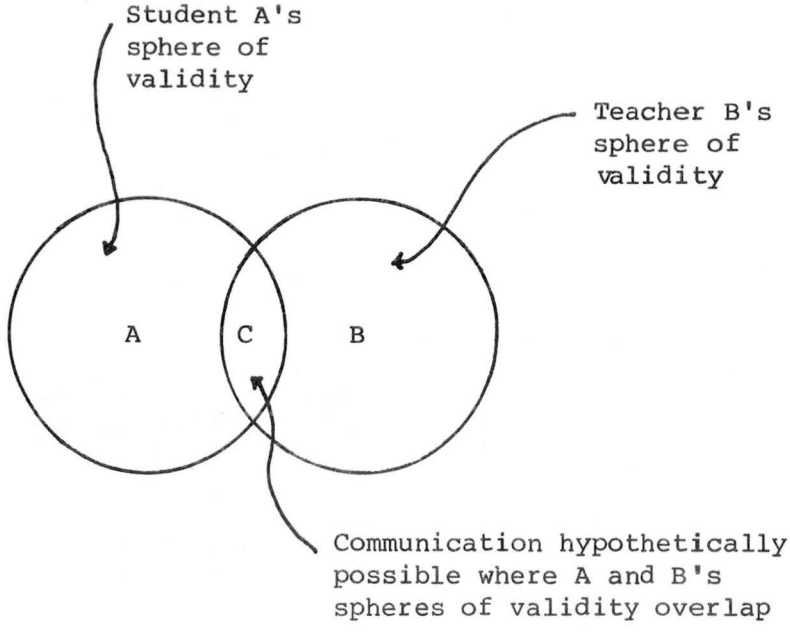

Figure 8

Overlapping Spheres of Validity

of music is a natural process just as is the development of any other social phenomenon." Their study is concerned with the fluctuations in public taste and of searching for possible explanations for these.

Although the impact of 'pop' music and rock music has been recognized by music educators in the field, the impact of the 'pop' culture as an element in the music education process has not been adequately conceptualized in theoretical formulations up to date. A number of different approaches have been taken toward this phenomenon, ranging from a refusal to include this music in the curriculum, to a structuring of music courses around it. In his review of Mason's dissertation (Mason, 1970), Schwadron (1972) points to the necessity for a theory of music education to deal with the issue of what he terms 'youth music'.

To recapitulate, Assumptive Set A concerns the universality of music and the notion of 'spheres of validity'. These spheres of validity may approximate unity with a culture or alternately there may be a number co-existent at any given time. They must be examined in the light of time-space considerations. We have also noted the possibility of communication difficulties or conflict situations where individuals, groups, or sub-cultures do not share the same spheres of validity. Some of the implications of acceptance of these assumptions will be discussed further in Assumptive Set B.

ASSUMPTIONS CONCERNING THE CAUSE AND MODE OF FORMATION OF 'SPHERES OF VALIDITY'

Given that spheres of validity develop about particular forms of musical expression and experience, and given, further, that these

spheres may be synonomous with the culture, or alternately co-exist within the culture, a more basic question arises: How and why do these spheres of validity and their resulting socio-musical groups develop? For example, such questions as: Why are there cultural differences in musical expression? Is there a relationship between musical sounds and social structure? How can identical phenomena exist in widely scattered geographical areas? - these must be answered if one seeks to examine questions of causality. It is to these basic issues that we now turn.

It requires no specific documentation to assert that different cultures possess differing scale systems. One may cite the diatonic scale system of western societies in distinction to pentatonic scales, usually on its 'first mode' (on c) which occurs in the music of nearly all ancient cultures, e.g., used by American Indians, Mongols, Polynesians, Africans, Celts and Scots, in Gregorian melodies, and in Jewish synagogues, and the microtonal systems used by the Arabs and found in the Scruti system of 22 theoretically unequal but for all practical purposes equal microtonal intervals, each basically equal to a quarter tone.

A study of scale systems, notation, tonality and harmonic and melodic elements, leads Weber (1958) to conclude that there has been a progressive "rationalization" in music. Its peak, moreover, allegedly has been reached in western music. While his study has been criticized by Etzkorn (1973: 344) who claims Weber was simply using music to illustrate various of his sociological notions, yet a case may be made in favour of Weber's thesis. Further, his study does serve to demonstrate the fact of cultural differences in 'musical experiences'. The various systems give inherently different sounds to the music.

Differences in scale systems comprise one of a number of possible differences in musical sound between cultures. Instrumentation is another possible dimension.

Honigsheim (Etzkorn, 1973a) discusses the preferences of Eastern Slavic peoples for the minor modes, in distinction to the Western Slavs, who prefer the major modes. He asks the question as to whether this difference relates to the impact of the Greek Orthadox Church which is well established among Eastern Slavic peoples, and which has a greater accent on mysticism, than does the Roman Catholic Church which is in the ascendancy among Western Slavs. The difficulty with this explanation, he argues, is that in areas where the Greek Orthadox Church originated, the minor mode is not used more frequently than among other peoples.

In various cultures, the rhythmic element predominates in musical expression, e.g., African societies, in distinction to Western European serious music, in which there is a lessened emphasis on rhythm. The rise of rock music, with the predominant element being a rhythmic one, must be viewed as existing alongside this serious "art" music in Western societies.

Honigsheim claims:

> To assert that under similar social or economic conditions, similar scale relationships have been established would be untenable. Cultural diffusion from the High Andes of the Inca Empire into the lowlands suggests, however, that <u>music and culture can be distributed by diffusion</u>. (Etzkorn, 1973a: 202, Italics mine)

However, he feels that:

> . . . the traditional explanations for the appearance of identical phenomena in remote districts - independant parallel development, diffusion or human migration - cannot be used to adequately explain the appearance of the pentatonic scale in

various geographic locations. (Etzkorn, 1973a: 202)

The bagpipe instrumental family provides another illustration of geographical distribution, e.g., Ireland, Brittany, France, Germany and Italy. It is currently suggested that the bagpipes originated in the Orient (Harvard Dictionary of Music, 1969: 68). The question may be raised, however, as to why the bagpipes gained the ascendancy in some areas, e.g., Scotland and Ireland, and not in England or the other European countries.

The question of the relationship between musical sounds themselves and social structure, as Honigsheim notes, is infrequently discussed in the literature. As has been noted in regard to the structural assumptions in music, the elements of pitch, form, timbre, rhythm, and dynamics are variables which arise in the context of social situations. They are affected by such factors as the level of technology of the culture, its geographic location, the use to which music is put and other factors which will be discussed later. Studies with respect to racial differences in musical ability do not appear conclusive.[1] Differences in musical expression among cultures must therefore be explained with reference to social considerations.

The writer therefore presents the following working list of processes gleaned from a review of musical history and music education history in particular, by which it is proposed to explain the formation of spheres of validity and their resulting socio-musical groups. In line with the preceding discussion of the variations in social time and space in the context of the discussion of Structural assumptions above, it should be noted that these processes may operate in varying specific ways through social time and space. It is further argued that

that they are theoretically and practically distinguishable, although in practise they may operate in conjunction with one another. At this stage, no claim is made as to the exhaustiveness of the list. They are as follows:

1. Technological Change
2. Commercialization
3. Religious Influence
4. Patronage
5. Folk Tradition
6. Musical Fraternity and Charismatic Influence
7. Governmental Influence
8. Population Migration

These will be discussed in turn.

Technological Change

Where a change in technology occurs in any given culture, such as an important invention that relates to musical performance, or experience, a change in musical performance or experience may become possible, and where this is significant, a new sphere of validity may develop.

The technological change may precede the change in musical performance which follows it, e.g., the invention of movable letter type (Gutenberg's Bible c. 1455) preceded the printing of music by such publishing houses as Schott (1773), Breitkopf and Härtel (1756) and Hoffmeister (1783). Similarly, the invention of the computer preceded its use by composers, or in teaching machines (Jorgensen, 1974). The invention of electronic oscillators and amplifiers preceded the

development of such instruments as the electronic organ, electric pianos and guitars, electronic carillons and such musical forms as rock music which require heavy amplification. However, while the technological change may precede the change in musical expression, there must of necessity be a demand for such change, or a receptivity to it on the part of consumers. For example, the publishing of music commenced in the latter half of the eighteenth century when there was a sizeable public and performer demand for printed music.

On the other hand, there are examples where technological change has followed the demands and expectations of composers. For example, in 1830 the first use of valve cornets in a symphony is recorded. Hector Berlioz scored them for his symphonie fantastique, Op. 14, in which he demanded chromaticism of the instrument. They were popularized as a result of this symphony and became standard instruments in the orchestra.

A more dramatic example is that of Beethoven. With respect to Beethoven's piano performance, Harold C. Schonberg (1970) makes the following comment:

> When Beethoven settled in Vienna in 1792, his style of playing made an overwhelming impression. The Viennese were conditioned to the smooth, fluent style favoured by Mozart. Here came young Beethoven, hands high, smashing the piano, breaking strings, aiming for a hitherto unexploited kind of orchestral sonority on the keyboard. In his quest for more power, Beethoven begged the piano manufacturers to give him a better instrument than the light actioned Viennese piano, which he said, sounded like a harp.

The consequent ascendancy of the English piano (e.g., Broadwood) with the heavier touch, wider dynamic range available, the increased tension imposed by thicker strings which gave the loudness and brilliance, and the invention of the one-piece cast-iron frame and cross stringing by

Alpheus Babcock in 1825, enabled the development of romantic and impressionistic music which departed radically from the piano music of the classical period (1750 - c. 1830).

In some cases, a suggested invention does not take hold, as with the present reluctance to accept a recommended "chest of viols" to replace the present string family. Acoustical research, such as that conducted by Carlene Hutchins, through the Catgut Acoustical Society, suggests that the sound desired from existing instruments does not match their ability to produce. The theoretically desirable and actual size of the instruments do not match. The reasons given for the reluctance to change are as follows:

a. The new instrument does not significantly improve the sound over the present instruments.

b. There is pressure to retain the 'status quo'. Musicians, for example, have vested interests in the present instruments and there is a great deal of extant literature for the stringed instruments.

Various instrumentalists have been involved in inventions connected with their instruments. For example, Friedrich Wilhelm Wieprecht (1802-1872) was a brass player and band conductor in the Prussian army and invented the bass tuba. Karl Almänrader (1786-1843), a bassoon player in the Wiesbaden court orchestra, experimented for fifteen years with changing hole and key positions and developed the bass bassoon. Herman Ritter (1849-1926) a violist, together with German physicist Kichhof (1824-1887) built the larger Ritter viola which improved the tone of the instrument.

The invention of electronic reproduction as illustrated in the

quality of recording and playback through extremely sensitive equipment, enables in many cases, a near-perfect performance to be listened to under near-ideal conditions. This has made music widely available. Whereas in the late eighteenth century, a person would only have the option of a live performance, in the present day, the option of a recorded performance - either through video or audio taping is also open. This has led to significant changes in the quality or dimension of musical events associated with the performance or consumption of music.

Commercialization

In commenting upon the impact of 'commercial values' of Western societies upon its music, Mellers writes:

> Now it is, I suppose, axiomatic that a civilization which lives largely by commercial values, by the power of money, will produce a commercially-minded art as the sub-stratum of its musical experience. We are apt to assume that our musical 'culture' and our commercial music are two completely separate things and in so doing we fail adequately to assess the threat which 'culture' is exposed to . . . it is true to say that the relation between the majority of people and music is today abnormal. A commercially imposed industry of music manufacture is a very different thing from a creative tradition of popular music which arises from the people themselves. If in the first place you get a synthetic or stock-response music manufactured because the majority of people's lives have grown, under the influence of the machine, essentially non-creative and emotionally bogus, in the second place the machine technique of music manufacture is so insidious and through mechanical means of reproduction, so widely disseminated that it acutely accelerates the pace of progressive debasement of taste. (Mellers, 1946: 10, 11)

In their study of data over a twenty-six year period, Peterson and Berger (1975) lend support to the contention that the commercial sector has had an important impact on music and that there is a close relationship between market structure and changes in music. They conclude that

periods of market concentration are found to correspond to periods of homogeneity and periods of competition to periods of diversity. A relatively long period of gradually increasing concentration is followed by a short burst of competition and diversity, with changes in market structure preceding changes in music. Other studies such as those by George A. Booker (1968) and Johnstone and Katz (1957) note the impact of disc jockeys and social groups in affecting the musical taste of adolescents.

The question of how 'commercial' music arose and how a basic change between the mediaeval English music tradition and philosophy and that of contemporary England was effected, is one which occupies Mellers throughout his discussion of music and society. He points out that the modifications in musical technique were accompanied by an increasing tendency for mediaeval civilization to become rooted in the towns, with the new "free" communities with their charters, guild privileges and great wealth founded on trade. Polyphonic music was illustrative of the growing social concern for rights, in distinction to the manorial system. Mellers notes:

> It was in England that the Middle Ages first became musically speaking, superceded by the Renaissance world; and this is not surprising since with the decay of mediaevalism and the rise of the English wool trade this country began to usurp France's position as the leader of European culture. For the first time a distinctively British school of composition arises, and this, infiltrating into the court of Charles the Bold through the cultural as well as material exchange consequent upon the wool trade, in turn exerts a considerable influence on the next great continental school - the Netherlanders Ockeghem and Obrecht, Dufay and eventually Josquin des Pres. (Mellers, 1946: 39)

The rise of the public concerts and of impresarios who acted as financiers and agents for artists is a fairly recent institution (Harvard Dictionary of Music: 191). Through the end of the seventeenth

century, musical performances took place in churches, in closed circles such as collegia musica and were generally for the upper classes. The first non-operatic concerts open to the public were those organized by John Barrister (1672-1677), followed by such series as those organized by the London coal merchant, T. Britton (1678-c.1708), the well-known Salomon concerts (1791-1795) and the Crystal Palace concerts (1855-1901). The German and French concerts appeared much later than in Britain. For example, the concert spirituel series in France was devoted to sacred music and appeared from 1725 through 1789. The Gewandhaus Konzerte of Leipzig were started by J.A. Hiller in 1781. In his comments with respect to the rise of the oratorio in England, Mellers notes that Handel's choice of this medium was exactly suited to "the temper of the era of the Roast Beef of Old England and imperialist expansion" (Mellers, 1946: 96). The form was ideal in the context of the rising middle class, which was more realistic and generally with less leisure time for music making than the upper class aristocracy.

It is of interest to compare the following three cultures; Austrian, Russian and American, from the viewpoint of the role that commercialization played in the maturation of their several cultures. The Austrian case has been chosen as an example of a culture with its roots in the past, having experienced an outburst of creative musical expression in the eighteenth and nineteenth centuries. The close bonds politically, culturally and musically, with Germany may be noted. At the present time, traditional folk music and serious music hold an important place in the Austrian culture.

Russia is cited here, because it represents a case in which the role of commercialism has been theoretically at a minimum.

Prior to c. 1700, musical activity in Russia, aside from folk music, was restricted mainly to the church. Peter the Great helped introduce western opera and during the reign of Catherine II (1762-1796), music in St. Petersburg was dominated by Italian composers. From the late eighteenth century, a large number of composers and performers of Russian origin have arisen, including Tchaikowsky, Rachmaninoff, Borodin, Mussorgsky, Rimsky Korsakov, Gretchaninov, Scriabin, Stravinsky, Prokofiev among others. The growth of a distinctively Russian musical culture is paralleled by a growth of dance as an art form. For example, ballet was cultivated comparatively late (in the second half of the nineteenth century) but has become a significant medium and has had considerable influence internationally. While it is difficult to separate the comparative absence of commercialism from governmental influence and control in Russia, the result has been that the Russian folk music has been preserved, that theatrical and musical education have been linked to economic life (e.g., concerts for factory workers) and participation in musical activities is encouraged (Harvard Dictionary of Music, 1969).

Against the backdrop of the above-cited examples - Austria, on the one hand, possessing a very rich and well-established culture by the time that commercialism began to become a predominant influence in the western World; Russia with a long history of folk and religious traditions in music, developing comparatively late culturally, in the comparative absence of commercial incentive and under the sponsorship and control of government, we may compare the American example.

Prior to the eighteenth century, American music had been chiefly affected by an English influence (1607-1790). Immigrants from

from other ethnic origins tended to be assimilated into the dominantly English culture. During the period (1790-1865) following the American Revolution, European professional musicians immigrated to the United States, e.g., Benjamin Carr (1768-1831) established America's first music store in Philadelphia (1793) and was active as a composer, singer and organist. The formation of the Musical Fund Society (1820) in Philadelphia and the Philharmonic Society (1842) in New York, laid the foundation for serious music. Lowell Mason (1792-1872) was a leading figure in the movement for cultural parity with Europe. Between 1865 and 1929 a spectacular growth in American music took place, fostered by rapid industrialization and increase in population. After 1930, American serious music became well-known internationally - with such composers as Aaron Copland, Randall Thompson, Roy Harris, Roger Sessions, Samuel Barber, among others. Experimentation has been the hallmark of such composers of electronic music as Ussachevsky and Babbitt.

However, against this development must be balanced the growth of popular music, much of which comes from the dance hall, motion picture theatre and more recently, commercialized 'country and western' and rock music prepared and packaged by the music recording industry. This popular music has a far wider appeal and influence on the population than does the serious art music. It requires no documentation to assert that the amount of radio time devoted to popular music far exceeds that of classical music, and the number of stations playing popular music far exceeds the number playing serious music.

In this context, it should be remembered that free enterprise stimulates the importance of the profit motive and goods and services are judged by an organization with respect to the amount of associated

profit. If a record sells three million units, and another sells 250,000 units, and both are sold for the same price, the former record will have a higher priority, unless the organization has objectives other than profits. Currently rock music and popular music of various kinds sell far more volume and value than other types of popular music. If one accepts the Mellers argument presented above, that commercialism tends to destroy the folk music expression of a society, and to undermine its true cultural expression, then one would have to argue that such may be the case in the United States.

Both the Russian and American examples point to the fact that only as a society becomes sufficiently affluent, so that some of its members may be spared and have time additional to that required in performing survival tasks, does serious music, or music for its own sake and independent of other uses, develop.

Religious Influence

Religious belief and expression has had a profound influence on music, both within the religious ceremonies and ritual and without - on the musical expression of the people in their everyday lives. The belief in spirits of deities appears in primitive cultures, e.g., the Australian aborigines, New Guinea tribes, and in the Pacific Islands of the Near East. Associated with these beliefs are rituals in which music and dance are combined, with the belief that this causes the spirits to act favourably to the tribe and grant such requests as those for rain, healing, etc. The ancient Greeks used music as an adjunct to rites, ceremonials and believed that certain modes had given moral values. Pre-Christian Biblical records show that music

played a role on occasions of great joy and celebration (Exodus XV; Judges V; I Samuel XVIII:6).

In examining the role of religious influence in the development of spheres of validity, it is appropriate to use examples from the Roman Catholic and Protestant churches. These illustrate the impact of differing philosophy and theology upon musical expression. Zentner (1972a) discusses the differences in philosophical position between the Catholic and Protestant ideal types. The value of his analysis is to point to profound differences in assumptions about God, about the universe and about man's place in the universe. The Protestant, he argues, assumes that the universe is stable, created by God, that it is reasonable and not subject to caprice and whim. The dignity of the individual is assured because of God's attitude to man, and man's response to God is a realistic and rational one - to discover God's plan for him. The focus is upon the real world, and achieving progress and success in this world. The Protestant has been taught to defer gratification, both in achieving success in this world, and in reaching Heaven which is his reward upon faithfulness in his life. The Catholic, on the other hand, operates on the assumption of an arbitrary and unstable universe, subject to the whims of divinities which can be influenced to change their minds. There is a limited place for reason, and a belief that it may undermine truth which has been determined by the church. There is a tendency to deny material comfort and shun worldly achievement, although there is a dualistic notion here because it is appropriate for the church to be wealthy and for its leaders to gain power. The doctrine of elitism is held, rather than freedom and democracy.

Consequent upon these different assumptions and philosophical positions, are differences in the way in which Catholic and Protestant churches have affected music - both within the liturgy and without the church, upon the development of serious 'art' music. An excellent example is that cited by Mellers (1946: 78-80) in regard to the rise of the oratorio in England and its parallel development in the cantatas in Lutheran countries.

In explaining the lack of growth of an 'operatic' tradition in England, Mellers sees the impact of Puritanism, the rejection of Catholicism, and the resulting philosophical outlook which led people to act differently than they would have under the influence of Catholicism. He sees Catholicism as being allied with the theatrical and the sensuous whereas Protestantism represented a rejection of the sensuous and theatrical, and thereby an accent on realism. The result in terms of Protestant church services was a return to simplicity of musical expression and the participation of the congregation in the musical activities of the service, as for example in congregational hymns. The Puritans wished to shun worldly display and sensuousness which they associated with the opera and the operatic singing styles. In the second half of the seventeenth century, however, after the civil war, Mellers contends that the Christian humanistic tradition turned sour and was swamped with the Cromwellian dictatorship and Puritanism which perpetuated the notion that there was a distinction between God and art. Further, he argues that this process was accompanied by a decay in the aristocracy which had "leisure" time for artistic "cultivation".

In support for Meller's thesis, one may cite the development

of the opera in "Catholic" countries such as Italy and Austria, and the development of the oratorio in such "Protestant" countries as England and Lutheran Germany. Further, the decline of the social dance in the seventeenth century, as noted by Rust (1969: 55) follows the Puritan viewpoint that dance is "sinful" and that sensuous activities should be shunned. It should further be noted that the early history of music in the United States (Harvard Dictionary of Music, 1969: 882) reveals that in the period (1607-1790), in the northern states, there was a predominant emphasis on the Puritan psalters, e.g., the Bay Psalm Book, and few indications of active musical development in serious 'art' music, both within and without the church. One can cite the combination of both religious influence and difficult economic conditions allowing little leisure time, as being key contributors to this state of affairs.

The influence of religions is also to stabilize musical forms of expression and embody them within the ritual of the church, so that they come to assume musico-spiritual values. Puritanism, for example, constituted a revolt against the Catholic Church and the Established Church of England. It sought for individual freedom to worship God and suspected any complex music including polyphony or complex metre as representing "Catholic" music (Routley, 1950: 143). In their services, they sang only Psalms, although they did develop a wide variety of these. They tended to maintain this position, as seen in the United States example, for some two hundred years. Similarly, the influence of the Roman Catholic Church was to attempt to stem the tide of growing polyphony and free organum,[2] and to remedy abuses of the new style, as for example with the Papal Edict of 1325. Similarly, after the Renaissance and during the Counter-Reformation an attempt was made

to purify musical forms in use in the Roman Catholic Church and to bring them back to "pure" forms, Routley (1950: 128) cites the example of the twenty-second Council of Trent in 1562, in which a number of complaints about the condition of church music were discussed.

Patronage

Honigsheim's essay, "On Music, Musicians and Sponsorship" (Etzkorn, 1973a) is of relevance in this discussion. He classifies patronage by the types of people and organizations which are involved:

a. Religious Leaders

b. Influence of Royalty

c. Influence of Nobility

d. Support from Private Individuals

e. Impresarios and Agents

f. Private Associations

Under each category, he cites musical examples showing how patronage has been effected. The Imperial Viennese court, the French courts at Paris and Versailles, such monarchs as Elizabeth I and Louis XIV and King Louis of Bavaria's patronage of Wagner are well-documented, as is the influence of the patronage by nobility such as Count Waldstein's patronage of Beethoven, and Baron Senfft von Pilsach's patronage of Robert Franz.

However, to classify patronage by the types of people or organizations involved, is not to ask the more basic question: How does patronage create new spheres of validity? Whether it be by nobility or religious leaders, or through impresarios or agents, the effect in all cases is to provide support for selected musical talent

and to in some degree or other, either directly or indirectly inhibit the growth of various forms of musical expression.

The source of patronage may have some impact upon such things as the social status of the musician, or the security of the employment terms. But whatever the source, the effect is to develop such forms of musical expression of which the patron approves, and if these are significantly different from traditional forms, by the influence which the patron possesses, both with his peers and his subordinates, it becomes approved and accepted. This is not to say that in all cases the recipient will be directed to undertake a certain musical style or form. The examples of Beethoven and Wagner demonstrate that the patrons may have been under the influence of the composers. The example of Haydn who during his life gained considerable prestige and influence illustrates the variable power relationships as between patron and musician. Further, the patron's power, prestige and influence on his peers and subordinates generally, may determine whether musical development will proceed in accord with the patron's wishes, or along lines he wishes to establish.

Historically, there appears to have been a trend from patronage principally extended by royalty, nobility and the church, to that extended by government agencies and commercial sources. Patronage becomes necessary where a society has reached an economic and cultural level enabling the cultivation of the arts for their own sake, quite apart from any other associated use. The nature of patronage will to some extent be determined by who has available resources and interest - either from motives of image preservation, or a genuine concern for the arts. The decline of the nobility and royalty, and the

present trend in indebtedness of the church has resulted in a change in power and resources to the commercial and government sectors. Patronage may to some extent be directed to the serious 'art' music and its cultivation. However, it is also to be found in the commercial 'pop' music which is extensive in influence. The economic success of a rock band today may be more a matter of management and patronage, than of an inherently higher quality in the music performed. This may further contribute to the decline which Mellers sees in taste, in western societies.

Folk Tradition

This is historically the basic way in which spheres of validity were developed and maintained. Music was passed orally from generation to generation. This is typical, for example, of the gypsy musicians in Hungary who pass their musical traditions on through their families. This is also typical in African societies. The traditions of the tribes are absorbed through participation in the festivals and rituals. The sea shanties or work songs of the English and American sailors were passed on through generations in this fashion.

In regard to musical traditions, it has been argued by Silbermann (1963) that certain musical preferences show a correlation with certain socio-economic groups. An example of a primitive tribe in which the witch doctor cultivates the repertoire of songs and dances and passes them on to his son thereby keeping the traditions within the family, may be compared to the violin makers Niccoló Amati (1596-1684), his pupil Antonio Stradivari (1644-1737) and Guiseppe de Gésú (1698-1744) who cultivated a small group of craftsmen who, in turn, passed the

traditions of violin construction along from generation to generation. In these examples, certain socio-economic groups engage in certain musical activities and these tend to be passed along by folk tradition.

The example of the Russian situation during the time of Tchaikowsky is a point here. Serious 'art' music was performed for the nobility and the upper classes, while the folk people in the rural areas participated in their folk music. Differences in wealth to afford court life, social expectations and education separated the upper and lower classes. The rise of the middle classes in England and the paralleled decline in the power of the aristocracy, resulted in the desire for more "realism".

Musical Fraternity and Charismatic Influence

In this type, the musical fraternity, or a leader with charismatic influence brings about a change in musical expression. An excellent example of this is to be found in a consideration of the history of music education in the United States, particularly during the period (1790-1865). Lowell Mason (1792-1872) represents such a charismatic leader. He published his first book in 1822, became president and conductor of the Handel and Haydn society (1827), founded the Boston Academy of Music (1832), was head of music in the Boston Public Schools (1838-45), organizer of music teachers' conventions and composer of more than 1200 hymns. A number of his descendants included Lowell Jr. and Henry of the Mason and Hamlin Pianoforte Co., William Mason, pianist and composer, and Daniel Gregory Mason, composer and teacher.

With respect to the musical fraternity, the arrival of

professional musicians during the last decade of the eighteenth century resulted in changes in musical taste, and in the training of several generations of amateurs. The formation of such societies in the United States, as the American Guild of Organists (1896), the Music Educators' National Conference (beginning in 1907 as the Music Supervisors' National Conference), the Music Teacher' National Association (1876), and others, has resulted in among other things, improving church music, moulding public taste, educating school and private music students, and raising standards of performance.

The formation of the American Federation of Musicians (Leister, 1953) illustrates how through their unionization, the musicians began to achieve power and dictate terms to the employers.

Governmental Influence

Under the type 'commercialism' discussed above, it was pointed out that the governmental influence in the U.S.S.R. was to establish western music and dance forms. Prior to the advent of communism, a small upper class elite associated with the courts, enjoyed serious 'art' music. The great proportion of the population was of rural extraction and produced simple folk songs. There was a dualism in the society, with the rich elite nobility enjoying the serious music and the great majority of the population which was outside its purview. The impact of communism was toward the breaking down of this dualism so that theoretically, all should have the opportunity to participate in serious 'art' music. As well, the native folk songs and dances have been preserved. The government provides economic support to musical and performer associations, dance companies and the like, and also for

musical education.

The government has also attempted to control the nature of the music produced:

> Soviet philosophy dictates that art must serve society, but attempts of the Russian Association of Proletarian Musicians to govern composers failed, and the government disbanded it in 1932. The slogan "Soviet Realism", launched in the 1930's promulgated a national style in an accessible idiom. In a famous assault on Shostakovitch, a Pravda editorial of 1936 denounced modernism in Soviet music and condemned the vaguely defined formalism of western music. A 1949 decree of the Central Committee of the Communist Party of the U.S.S.R. renewed this attack . . . The decree was rescinded in 1958 . . . (Harvard Dictionary of Music, 1969: 746)

Other examples from totalitarian states such as Hitler Germany, could be cited. For a discussion of the mechanism whereby Hitler's government influenced musical performance and experience, the reader is referred to Honigsheim's essay, "On Forms of Music and Forms of Society" (Etzkorn, 1973a: 193). The example clearly indicates that changes in the political structure can bring about major changes in performance practise, musical involvement and even scholarship.

Governmental influence affects music through nationalism, state and patriotic occasions and wars. An interesting example of the bagpipes may be cited here. Where Scotland felt threatened by the influence of the English and wished to preserve a distinctive culture, musical styles and instruments were encouraged which could be clearly distinguished from English musical culture, e.g., the bagpipes of Scotland in contrast to the English brass bands. Music for patriotic occasions may influence musical composition by providing the occasions for the performance of new musical works, or alternately, the performance of extant works. Hitler, for example, used the music of Wagner which he interpreted as the true expression of the German soul. A country

engaged in war produces music of a certain quality. In some cases, the achievement of political independence has been associated with the rise of national art music. Norway is a case in point (Harvard Dictionary of Music, 1969: 577).

Two examples of the effect of government control on music education may be presented. The Hungarian and United States situations are the cases to be examined. These examples illustrate that the nature of the government, and the philosophy underlying it, must be examined in order to determine the quality of effects it is likely to have on music and music education. The Hungarian example is typical of a totalitarian state, whereas the American example is typical of a democratic state.

In Hungary (Sándor, 1966) after the turn of the century, the appearance of Belá Bartók and Zoltán Kodály who both regarded the task of advancing musical education as equal in importance to their creative and research activities, provided the ideology and methodology for a program in music education. After World War II, the Hungarian People's Republic provided a country-wide network of state music schools and institutions all teaching in the same basic philosophy and methodology. Folk music became the centre of music education, which Kodály recognized as being in danger of extinction by technical and social development and the expansion of civilization. The Hungarian system has provided an example of a unified system in terms of method and philosophy in music education.

On the other hand, in the United States example, it is noted that:

> American music education is and always has been highly eclectic. The strong style and content that can be recognized and identified as "American" has as its chief characteristic, purposeful selection from available ideas. (Landis and Carder, 1972: 2)

Basically, the control of education has been under the jurisdiction of the states and not of the federal government, thus immediately opening up music education to a variety of possible approaches. Further, even at the state level, the control has mainly been in terms of certification of teachers and the provision of curriculum guides and resource assistance, leaving the local teacher freedom to develop his or her own particular approach. It appears that the Canadian example would fit into a similar category to the American.

Population Migration

A migration of population to areas where they either are absorbed into the culture of the area to which they move or effect a change in culture of the already existent population in the new area, effects in either case, a possible change in spheres of validity.

The Negro contribution through their spirituals, work songs and later through jazz and blues, upon the music of the United States is a case in point. The music of the Negro was changed by contact with white Americans. Janheinz (1961: 218) points this out in his study of the differences between African and Afro-American religious music. He notes for example, that the drums are missing and the percussion instruments have been replaced by hand clapping and foot stamping. Boeckman (1970: 13) in his study of the history of jazz notes:

> Religion played an important role in the music of the slaves. The African was by nature a strongly religious person. Once in the New World, he accepted Christianity readily enough,

> but fresh in his mind were African gods and religious dances and rituals. So he flavoured his Christian worship with elements of the old African ceremonies.

He also notes that dancing and percussion were banned in the Protestant services and that in the southern colonies which were predominantly Latin-Catholic, as for example Louisiana, the slaves were freer to hold on to their native traditions and customs than were their brothers in the Protestant colonies.

The impact of jazz was further popularized by commercialism. The Original Dixieland Jass Band was the first jazz group to make phonograph records. They made their debut in February, 1917 (Boeckman, 1970: 50). Jazz music further made a subsequent impact on the development of rock music and also in serious 'art' music.

It should be noted, however, that population migration does not result in a change in the aboriginal musical expression in all cases. Two such examples are the Australian Aborigine and the North American Indian, who have maintained their musical expression in spite of the prevalence of western music. On the other hand, the example of the mediaeval Mohammedan invasions in the north of India, resulting in a fusion of Mohammedan and Hindu elements in the music of the north, and a division between the northern and southern Indian musical styles, is indicative of such cultural fusion (Harvard Dictionary of Music, 1969: 407). This apparent problem may be resolved when it is remembered that the cultures must be sufficiently compatible in terms of underlying philosophy or level of development, in order for such fusion to take place. Alternately, one culture must be in a position of power, and the other sufficiently receptive to be willing to accept it. The Afro-American compensated for certain banns which were placed

on his musical expression by the white American, by alternate forms of expression. Similarly, the white man was influenced by the Negro. Many wealthy whites on plantations, for example, had Negro nurses who imparted some of their culture to their charges. There was, therefore, in certain respects, a melding of the two cultures. In the case of the Australian and American aboriginals, however, there was not the closeness between the cultures, and the underlying philosophy of the cultures was at variance.

From this discussion, the assumptive set may be summarized as follows: Given the concepts relative to the sphere of validity developed in Assumptive Set A, the above discussion has focussed upon the question of the cause and mode of formation of spheres of validity. A working list of eight processes to be referred to subsequently as developers has been presented. The examples cited with respect to each process have illustrated how the operation of each developer varies in both social and actual time and space.

ASSUMPTIONS CONCERNING THE OPERATION AND MAINTENANCE OF 'SPHERES OF VALIDITY' AND THEIR ASSOCIATED SOCIO-MUSICAL GROUPS

Given that 'spheres of validity' develop about particular forms of musical expression and experience, and these may either co-exist in a culture or be synonomous with it; further, given that the working list of eight processes or 'developers' explain the cause and mode of formation of the spheres of validity, then the further question to be addressed concerns the operation and maintenance of spheres of validity and their associated socio-musical groups.

In addressing the question of the cause and mode of formation of spheres of validity in Assumptive Set B above, the appeal was to the evidence available from the field of history. Further, it should also be noted that the examples cited with respect to each of the developers illustrated the writer's arguement elaborated in Chapter III, namely, that the analysis of musical experience must be conducted within the purview of social and actual time and space, these notions having been developed by sociologists P.A. Sorokin and Henry Zentner.

It may be argued that music education in western societies falls principally within the domain of the musical fraternity although it may be subject to the operation of constraints in each of the following areas, e.g., technological change, commercialization, governmental influence, religious influence, patronage and folk tradition. However, it is also recognized that there is considerable variation in both dimensions of time and space. In a given totalitarian state such as Hungary, music education chiefly remains under government control, with the musical fraternity under the domination of the state or if they are sympathetic to the governmental ideology, at one with it.

Further, the example of mediaeval music education illustrates a period of religious control and influence as the predominant process. In this case, the musical fraternity was dominated or largely identical with the church. The education of the troubadours by the monks is a case in point. It is important to recognize that the relative power of these developers has varied through the dimensions of time and space. To allow the possibility of music education taking place in the framework of only one developer, e.g., through the jurisdiction of the

musical fraternity, is to create an unjustifiable and unwarrantedly narrow theoretical viewpoint.

Given that spheres of validity tend to coincide with group boundaries, a question which will now be addressed concerns the structure and processual dynamics of groups and group formation. Assuming that such spheres of validity and their concomitant socio-musical groups are indeed formed, the question of their operation and maintenance is of paramount importance. It is to this question that we now turn.

In developing the present analysis, the writer seeks to take account of phenomena at the macro as well as at the micro level. Thus, in respect of the developers above, it is assumed that they are applicable to studies at the various levels of inclusiveness. In examining the question of the operation and maintenance of spheres of validity and their associated socio-musical groups, the objective is similarly to develop units of analysis which can be applied at the various integrative levels of analysis, e.g., the organizational level as well as the cultural level.

It was noted in the discussion of methodological issues in Chapter II above, that notions of causation developed with respect to the complexity of the causal chain and the necessity of placing the definition of causality within the framework of both time and space, result in a difficulty in determining causes in any given social situation. It was noted that events in the social sphere are often of short duration and the problem of observation at any given point in history either in terms of being present or able to see any given event, or of examining it experimentally as it occurs, is an extremely

difficult one. This view of causation necessitates a methodological approach which constitutes an open system.

The writer, therefore, has chosen to develop the notion of group processes. These exist through time and space and can be intuitively grasped, although the choice to describe the operation of any given process in a certain way may be based on an observation of data in a logico-rational fashion. The duration or 'time scale' of processes enables observation at various points through time.

For the purposes of the present analysis, it is assumed that the processes which are developed are applicable to all organizations, i.e., common to all types of operative social systems irrespective of all particularizing criteria. Further, they are applicable at all integrative levels of analysis. Thus, the processes must be applicable, for instance, to each of the developers proposed in Assumptive Set B above. Again, all processes must be present in every socio-musical group.

As noted in Chapter II above, members of social groups have expectations based upon certain "norm sets". These may take on a markedly different character from one type of system to another, and may change through actual and social time and space. The analysis must of necessity be a dynamic one; as expectations and "norm sets" change through time, so the consequent operation of the processes changes.

Zentner (1973: 128) notes that "in a typical case, the members of a given system will be holding membership in numerous other and diverse social systems." For example, in the patronage process discussed above, a given patron may be at once a government official, a church official, and a businessman involved in the commercialization of a

certain kind of music. Similarly, in the commercialization process discussed above, a given commercial venture may be at once operated by a musical fraternity or involved with the implementation of technological change. The roles held by given individuals at certain times presupposes a schedule of activities in time and place and a set of expectations concerning the functions to be fulfilled in any given role. The question of possible role conflict must be recognized within the analysis.

Having noted various of the assumptions underlying the choice of the processual approach and its operation, the question then arises as follows: Is there an extant processual formulation which meets the requirements of this analysis? If so, which codification should be chosen? It is to a consideration of this question set that we now turn.

A number of processual approaches are extant including those of Park and Burgess (1921), Etzioni (1964), Loomis and Loomis (1965), Bakke (1967), and Zentner (1973). Park and Burgess invoke processes at a cultural level and their analysis cannot be satisfactorily applied at the institutional level. Further, their basic premise that "community is the term which is applied to societies and social groups where they are considered from the point of view of the geographical distribution of the individuals and institutions of which they are composed," relegates, as Zentner argues, "the community in this conception" to "the status of a mere synonym, not only for the society concept, but what is even more objectionable, for all manner of social groups, irrespective of size" (Zentner, 1973: 12). In this case, Park and Burgess fail to adequately distinguish actual and social space.

Etzioni's formulation is not a systematic codification of processes. In consequence, the processes are neither exhaustive nor mutually exclusive. They overlap at different integrative levels of analysis.

The Loomis and Loomis PAS model includes a list of nine 'elemental' processes and six 'comprehensive' or 'master' processes. These are listed as follows:

1. cognitive mapping and validation by which the element belief (knowledge) is articulated
2. tension management and communication of sentiment by which the element sentiment is articulated
3. goal attaining and concomitant 'latent' activity as process by which the element-end, goal, or objective is articulated
4. evaluation by which the element norm is articulated
5. status-role performance by which the element status-role (position) is articulated
6. evaluation of actors and allocation of status roles by which the element rank is articulated
7. decision making and its initiation into action by which the element power is articulated
8. application of sanctions by which the element sanction is articulated
9. utilization of facilities by which the element facility is articulated (Loomis and Loomis, 1965: 4)

The above-cited 'elemental' processes are followed by five 'comprehensive' or 'master' processes:

1. Communication
2. Boundary maintenance
3. System linkage
4. Institutionalization
5. Socialization
6. Social control (Loomis and Loomis, 1965: 5)

The present writer cannot accept the validity of the distinction between elemental and comprehensive processes, nor the fact that the processes cited by Loomis and Loomis are in fact mutually exclusive or exhaustive. Various processes such as 'rationalization', 'bureaucratization', 'urbanization', 'industrialization', and 'secularization' do

not appear to be discussed in the Loomis analysis.

Bakke defines an organization as follows:

> . . . a continuing system of differentiated and co-ordinated human activities utilizing, transforming, and welding together a specific set of human, material, capital, ideational and natural resources into a unique problem-solving whole whose function is to satisfy particular human needs in interaction with other systems of human activities and resources in its particular environment. (Bakke, 1967: 50)

He then defines the basic activity requirements for an organization as follows:

1. Identification activities
2. Perpetuation activities
3. Work-Flow activities
4. Control activities
5. Homeostatic activities

Within the above activities he defines several sub-classes of activities.

One difficulty in this formulation is the problem of the classification of the organizational activities. Some activities, for example, may be classified both as perpetuation activities and control activities. Another difficulty in the formulation is its concentration at the organizational level making it more difficult to translate at the psychological or societo-cultural integrative levels. Further, it is neither exhaustive nor mutually exclusive. The five essential processes identified by Bakke are therefore not acceptable to the present writer as meeting the requirements of this analysis.

Zentner's formulation is entitled, "A Provisional Codification of System Properties". He does not lay claim to exhaustiveness, but does claim that his processes are mutually exclusive. He argues that all the processes developed in his codification must be present in any social system. While the processes are formulated at the institutional

level, he claims that he is presenting "a codification of the structural properties which appear common to all types of operative social systems, irrespective of size or other particularizing criteria" (Zentner, 1973: 126). His analysis can, therefore, be applied at various integrative levels of analysis. He argues, further, for a symbolic approach in which there is a recognition of the logic of sentiment and intuition as standing in opposition to formal systematic rationality. The system properties are cast in terms of related "norm sets" which are symbolic in nature. He sets up twenty-two processes, each with related "norm sets" as follows:

Processes	Norm-Sets
Temporal-spatial coordination	Time-space norms
Goal seeking	Purpose norms
Information-exchange	Communication norms
Recruitment	Admission norms
Socialization	Ideological norms
Personification	Identity norms
Evaluation	Reference-group selection norms
Differentiation	Specialization norms
Segmentation	Segmentation norms
Integration	Jurisdictional norms
Responsibility-allocation	Role-assignment norms
Stratification	Status-assignment norms
Role coordination	Leadership norms
Decision-making	Procedural norms
Cooperation	Mutuality norms
Competition	Resource allocation norms
Conflict	Accomodation norms
Motive ascription	Hypothecating norms
Image-preservation	Image-maintenance norms
Maturation	Maturity-maintenance norms
Reality-maintenance	Objectivity-maintenance norms
Loyalty-maintenance	Morale norms

(Zentner, 1973: 128, After TABLE I)

Not all norm sets may be equally potent to induce changes in others. Further, there may be marked interdependence among the processes. A change in one may result in a change in the operation of several other processes. The assumptions underlying Zentner's formulation leaves

his philosophical position in alignment with that of the writer and as satisfying the criteria by which the various processual formulations are being evaluated. The writer believes Zentner's system to be the best extant codification.

It remains outside the scope of this present study to analyze each of the Zentnerian processes in detail. For present purposes, his formulation will be provisionally accepted as a "Working List of Organizational Processes". Presumably, then, any socio-musical group associated with a given sphere of validity and when analyzed at the various integrative levels, should evidence all the enumerated processes.

Given this "Working List of Organizational Processes" (after Zentner), it should be possible to examine the organizational characteristics underlying each of the developers identified in Assumptive Set B above. Consider Figure 9. To undertake a complete analysis of this magnitude obviously remains outside the scope of this study.

It may be noted, however, that if it is assumed that music education may take place in the province of more than one of the developers, then an analysis of the operation of all the processes within each of the developers is properly the domain of musicology and, derivatively, of music education. Such a study provides perspective to present music education and points to possible areas previously neglected both in terms of philosophical and methodological formulation and also in terms of music education research.

However the analysis cannot stop here. It must be seen in the context of the cyclical fluctuations in social time and space between the 'idealistic' and 'sensate' polarities. It may be postulated that

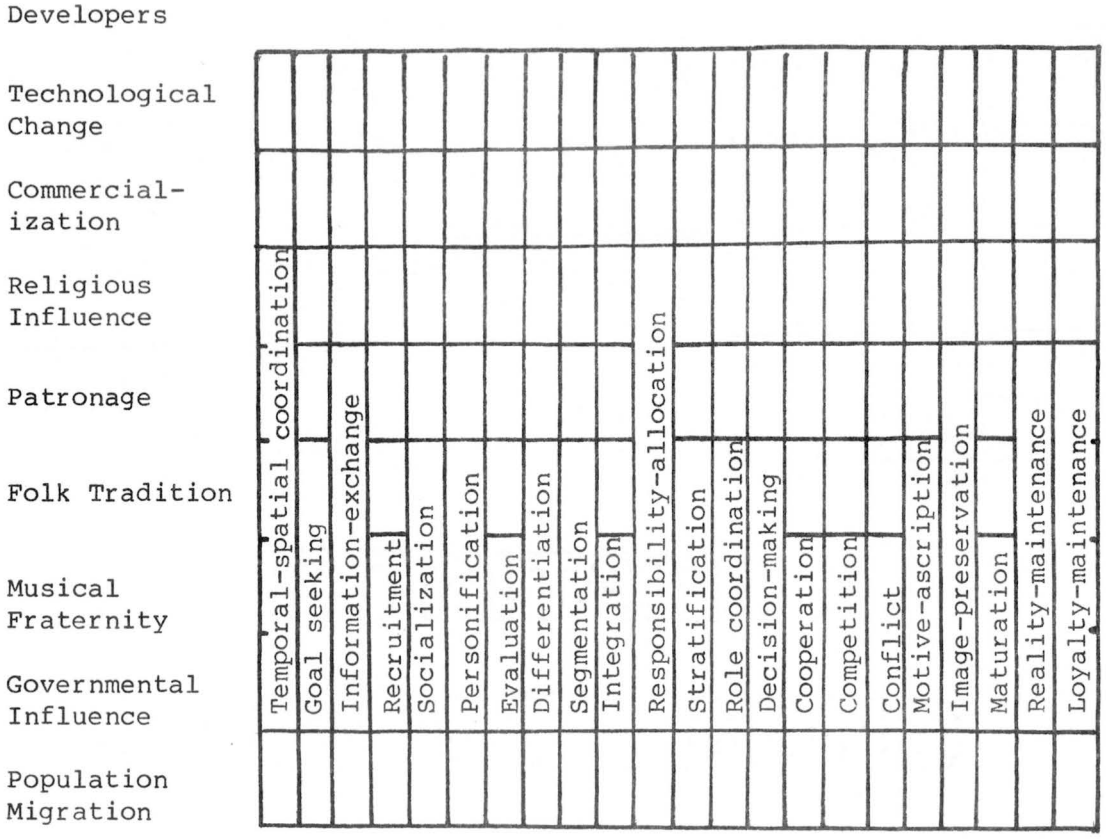

Figure 9

The Interrelationship of the Developers and the System Processes (after Zentner)

the organizational processes under a 'sensate' phase are of different quality and may have different valences than under an 'idealistic' phase. Goal-seeking, for example, for a given musical fraternity, may take on a different character in the above-mentioned polarities.

Similarly, the operation of the various developers by which spheres of validity are formed may have different valences and may be of different quality in the different cyclical phases. For example, a church acting in a 'sensate' phase may be concerned with questions of change and attacks on previously held dogma, whereas a church acting in an 'idealistic' phase may be preoccupied with transcendent values, theology and reformation. This may be of vital consequence in determining, for instance, what goals the organization will choose in promoting music within its border, the nature of the music, and the nature of the socio-musical groups over which it has jurisdiction.

In this assumptive set, then, it has been argued that the analysis of 'group processes' is the appropriate mode of inquiry into the operation of spheres of validity and their concomitant socio-musical groups. Certain assumptions have been developed with respect to criteria by which a number of extant processual formulations may be compared. The Zentner "Codification of System Properties" has been provisionally accepted as a "Working List of Organizational Processes" representing the best extant formulation, and appearing to fit the criteria accepted by the writer. It has been further assumed that an appropriate analysis of the operation and maintenance of spheres of validity and their associated socio-musical groups will focus upon the examination of these processes as they relate to each of the various developers, of which the writer has identified several.

It is assumed that the analysis may be cast at different integrative levels, and that the developers and the "Working List of Organizational Processes" (after Zentner) should be related together in the context of fluctuations in actual and social time and space.

Summary

Table 3 comprises a systematic list of assumptions which forms a summary of the preceding analysis respecting the Socio-cultural assumptions in music education. For ease of future reference, these are coded decimally. All assumptions prefixed by 4.0 are those assumptions covered in Chapter IV, i.e., Socio-cultural assumptions.

Table 3

A Systematic Coded List
of Socio-Cultural
Assumptions

4.1 Assumptions Concerning the Universality of Music and Spheres of Validity

4.101 Music is a universal phenomenon.

4.102 A 'sphere of validity' exists about a work of art when similar cognitive responses or meanings are evoked through a shared symbolism communicated by a work of art.

4.103 Socio-musical groups develop in association with spheres of validity and are co-extensive with them.

4.104 A sphere of validity may extend over an entire culture or may be applicable to a group of people within it, i.e., a number of spheres of validity may be co-existent within a culture.

4.105 There may be changes in spheres of validity through time, e.g., the evolution of relatively homogeneous musical expression in the middle ages to the eclectic situation today.

4.106 Where a variety of socio-musical groups exist, these may coalesce to form a sub-culture or sub-cultures. These may be in competition with each other or with social 'mores' of society.

4.107 Where a teacher operates outside a student's sphere of validity, or vice versa, difficulties in communication arise.

4.108 Musical taste appears to follow certain sociological laws.

4.109 Snobbism is exhibited by individuals in one socio-musical group who refuse to acknowledge any other.

4.2 Assumptions Concerning the Cause and Mode of Formation of Spheres of Validity

4.201 There are cultural differences in musical expression and experience.

Table 3 Continued

4.2 Assumptions Concerning the Cause and Mode of Formation of Spheres of Validity

4.202 Factors which explain the cause and mode of formation of Spheres of Validity are called 'developers'. Eight such processes are identified in the present analysis.

4.3 Assumptions Concerning the Operation and Maintenance of Spheres of Validity and Their Associated Musical Groups

4.301 Any socio-musical group associated with a given sphere of validity when analyzed at each of the integrative levels, should evidence all the processes enumerated in the "Working List of Organizational Processes" (after Zentner).

4.302 For each developer it is possible to identify and describe the operation of each of the system processes.

4.303 The operation of the developers and the system processes varies through social and actual time and space. The cyclical fluctuations, i.e., between the sensate and ideational polarities may result in differing operation of the organizational processes for each 'developer' and 'sphere of validity' through time and space.

FOOTNOTES TO CHAPTER IV

[1]Farnsworth's study of Japanese and American groups (Farnsworth, 1931) found that performance on musical ability tests varied in proportion to the amount of time the Japanese had been in contact with American society. Cultural differences in musical expression necessitate testing procedures which are not biased in favour of any one type of musical expression.

[2]With respect to the introduction of polyphony, Routley (1950) cites examples of several objections. The concern with "hocketing" or the use of the musical rest as a dramatic agent is noted by Routley who quotes Rievaulx (d. 1166) as follows:

> Sometimes though mayest see a man with open mouth, not to sing, but as it were to breathe out his last gasp, by shutting in his breath and by a certain ridiculous interception of his voice to threaten silence, and now again to imitate the agonies of a dying man or the ecstasies of such as suffer. (Routley, 1950: 104)

John of Salisbury (c.1115-1180) comments as follows:

> Music defiles the services of religion; for the admiring simple souls are of necessity depraved . . . by the riot of the wantoning voice . . . (Routley, 1950: 101)

John Wyclif (d. 1384) is quoted as follows:

> In the old days, men sang songs of mourning when they were in prison, in order to teach the Gospel, to put away idleness, and to be occupied in a useful way for the time. But those songs and ours do not agree, for ours invite jollity and pride, and theirs lead to mourning and to dwelling longer on words of God's law. A short time later vain tricks began to be employed - discant, contre notes, organum and hoquetus . . . When there are forty or fifty in a choir, three or four proud lecherous rascals perform the most devout service with flourishes so that no-one can hear the words and all the others are dumb and watch them like fools. (Routley, 1950: 105, 106)

CHAPTER V

AN ANALYSIS OF THE PEDAGOGICAL ASSUMPTIONS IN MUSIC EDUCATION

Three highly generalized and logically inclusive sets of pedagogical assumptions are examined in the body of this chapter. They may be designated as follows:

A. Assumptions concerning the nature of pedagogy.

B. Assumptions concerning the developmental aspects of musical ability, cognitive functioning and its relationship to emotional response.

C. Assumptions concerning the empathetic relationships between teacher and student in the pedagogical process.

ASSUMPTIONS CONCERNING THE NATURE OF PEDAGOGY

The pedagogical process is defined as the process of mythologization determined by the norms of the developers which may vary through time and space. It is necessary at the outset to develop this definition more fully and to review some of the relevant concepts developed in Chapter IV in this context. The process of 'mythologization' is defined in this analysis as the process of passing on of values, beliefs and knowledge about the body of sacred and secular wisdom which has been collected within a given society or socio-cultural group. This process is based upon assumptions (both implicit and explicit) concerning the appropriate persons to be selected to be entrusted with this wisdom, the methods by which the wisdom is to be passed on (depending on assumptions relative to the most effective

teaching methods and student learning) and criteria by which the student will be judged to have acquired at a requisite acceptable level, the 'wisdom' deemed appropriate for that student. It should be emphasized that the term 'mythologization' is used in this case in a specialized way. It does not imply that there is not a search for ultimate truth and for appropriate standards by which all information is to be judged as to its worth as 'wisdom'. Indeed, there may be such a search for 'ultimate truth'. The term, however, also denotes the assumption that much information is 'intuitive' and may not constitute 'ultimate truth'. Therefore the term implies a constant search for a higher level of operation and a continuing quest for greater understanding. Involved in this process is the necessity for a possible continuing re-structuring of previously-held beliefs.

The kinds of knowledge, ideas and their structure, and the process by which mythologization proceeds is determined by the norms of the developers. It may be argued that each socio-cultural group or society associated with a given sphere of validity and formed as a result of the operation of a given developer has associated norms, values, and systems of belief which act as criteria for the subsequent mythologization within a given social system. It may, in fact, be that a variety of spheres of validity and developers may be operative and this will further complicate the analysis. It has been argued in Chapter IV that the operation of the aforementioned developers and the operation and maintenance of spheres of validity and their associated socio-musical groups must be analyzed within the framework of changes in social and actual time and space.

It is necessary, then, to extend the present formulation to take

account of the changes in terms of time and space and of the cyclical swings from the 'sensate' to 'ideational' polarities as postulated by Sorokin. These changes have important implications for the norms by which the process of 'mythologization' proceeds. Using examples from music education, the writer proposes to show that changing goals, curricula and methods may be related to changes in time and space.

With reference to the activities which have been considered the legitimate province of music education, it is obvious that there have been changes in terms of time and space. The 'singing schools' which arose in the United States in the first half of the eighteenth century under the sponsorship of such individuals as Rev. Thomas Symmes (Birge, 1966: 8), concentrated on singing and related sight-reading activities. Recently, as a result of a growing movement in the twentieth century principally, it has been assumed that music education should cover the following areas:

1. listening to musical examples and works of various musical 'periods';
2. performing in a variety of media (including conducting);
3. experiencing music in relation to the other arts;
4. listening to, and participating in teacher instruction, explanation and demonstration;
5. composing and improvizing; and
6. translating musical symbols to sounds and vice versa, and also translating images to symbols.

The Manhattanville Music Curriculum Project (Thomas, 1970) is an illustration of one integrated approach based on the assumption that music education should be of this kind of breadth.

It is obvious that not only has there been a change in terms of

those activities deemed to be within the purview of legitimate music education, but at the present time there is also a wide variety of different possible approaches to music education.

Secondly, it is apparent that the methodologies which have been fostered as appropriate pedagogical approaches have varied through time and space - ranging from the master-disciple approach where a given student "apprentices" himself to a master musician and studies with that teacher over an extended period of time, to a variety of methods of mass instruction advocated by such individuals as Kodály, Suzuki, and Orff among others.

The various concepts relating to the legitimacy of various activities in music education and methods of instruction which are accepted as norms make differential demands in terms of the types of teachers recruited and the range of student abilities tolerated in the context of both time and space. The elitist philosophy on the one hand, in distinction to the democratic philosophy on the other hand, makes strikingly different demands on both teacher and student. In the former case, a small select group of students who have the requisite backgrounds in and aptitudes for music are brought together in a class or individually with a specialist/professional musician-teacher. In the latter case, a wide variety of students having a wide range of backgrounds in and aptitudes for music are brought together under a teacher who is not necessarily a specialist in the particular aspect of music being taught. These differing philosophies, then, make different demands in terms of the appropriate administrative and pedagogical procedures to be adopted. They also affect in a fundamental way the musical events which are feasible or possible.

To recapitulate, Assumptive Set A respecting assumptions concerning the nature of pedagogy has focussed on pedagogy as a process oriented to socially construed norms and exhibiting sensitivity to changes in social and actual time and space. The pedagogical process has been defined as "the process of mythologization determined by the norms of the developers which may vary in time and space." It has been assumed that the pedagogical process must be viewed in the context of cyclical swings between the 'sensate' and 'ideational' polarities. Several examples have been cited in support of the validity of this assumption.

ASSUMPTIONS CONCERNING THE DEVELOPMENTAL ASPECTS OF MUSICAL ABILITY, COGNITIVE FUNCTIONING AND ITS RELATIONSHIP TO EMOTIONAL RESPONSE

It has been noted that music education is primarily concerned with the aesthetic experience and that the parameters of musical ability, cognitive functioning and emotional response play a central role in this experience. These variables act as 'constraints' or 'monitors' in the pedagogical process. While they may be present differentially at birth they may also be different in degree and nature by virtue of subsequent environmental experiences. Hence it is imperative to review the research evidence and theoretical formulations relating to the development of musical ability, cognitive functioning and emotional response. It is within the context of these 'constraints' that the subsequent theoretical formulation must be viewed. It is first assumed, then, that pedagogical considerations must have their roots in the developing capacities and abilities of the students to be taught.

Evidence Regarding the Development of Musical Ability

The task of studying the developmental aspects of musical ability is rendered more difficult by the existence of two problems, namely, (1) wide disagreements among researchers as to what in fact musical ability is, and (2) the respective roles of heredity and environment in its development.[1] Concerning musical ability, the work of the psychologists appears more advanced than comparable activities by musical investigators. Prominent among such psychological studies of musical ability is that of Rosamund Shuter (1968). While an exhaustive and systematic review of extant research evidence respecting musical ability remains outside the scope of the present study, it is appropriate to summarize some of the pertinent research findings extant.

With respect to the capabilities of infants, it is evident from studies by Bridger (1961), Wolff (1963), and Haller (1932), that babies can distinguish pitch and intensity. Shinn (Shuter, 1968: 75) argued that the efforts of very young children to produce music are due more often to an interest in self-activity than in music-making per se. It is also evident from the research of Shinn that a considerable range of individual differences in musical ability exist in early childhood. There also appears to be a gradual refinement of response to music, and Gesell and Ilg (1943, 1946) have recorded developmental stages up to the fourth year. In terms of the individual differences in appearance of melodic skills, Shuter (1968: 67, 68) notes that some young children were able to reproduce a note at 0.9 years while others were not able to until the fourth year. It is

interesting to note the results of Monroe's experiments in 1903 (Shuter, 1968: 70) indicating that during ages two through six years, girls manifested consistently better memory of songs and scales than did boys.

There is some difference of opinion as to whether rhythmic skills develop before or after melodic skills or independently. Revesz (1953) believed that the two were interdependent, whereas Wing (Shuter, 1968: 74) felt that melodic development came first. Moorhead and Pond (1942) found evidence that it is difficult for the young child to conform to time, beat and pitch set for him by others. It would appear that melodic skills are more developed than rhythmic skills for the very young child. However, wide individual differences are evident and there appears to be some greater gain and level of melodic memory for girls rather than boys.

In the middle years of childhood musical ability continues to increase and within each age group marked individual differences are found (Shuter, 1968: 80). It also appears that the ability in pitch discrimination increases at the fastest rate between ages six and nine years (Shuter, 1968: 81). Bentley (1966) found that the steepest increase in tonal memory ability occurs between ages eight and nine years. With respect to the ability to respond accurately to rhythmic patterns it appears that the fastest increase occurs between the ages of six and nine years and that there is no substantial change thereafter (Shuter, 1968: 81). It should be noted, however, that learning to perform on a musical instrument, rhythmic action, and singing are related to the general physical-motor development. Jones (1939) found that a minimum performance of motor skills is dependent upon an

appropriate degree of neuro-muscular maturation, although the development of the skill into a graceful coordinated performance is dependant upon continued practise. Valentine's study (1962) concluded that no preference for concords before discords was shown before age nine years, but by age eleven years discords show a negative score and by age twelve and thirteen years the preference for various intervals is similar to adult preferences. Franklin (1956) concluded that the appreciation of harmony does not develop until the child can concentrate on both the bass and the tune. Shuter (1968: 84) found that this ability did not occur before age eleven years. It appears, therefore, that between ages eight and eleven years, the child appears to develop some sensitivity to the effects of harmony although here again there are wide individual differences.

A marked improvement in melodic memory generally occurs about ages thirteen and fourteen years (Shuter, 1968: 86). Girls mature faster than boys and appear to be ahead in the appreciation of music. This factor continues to be higher for women than men as shown by Wing (Shuter, 1968: 88, 89). Men tend to rate higher than women in appreciation of rhythm and phrasing and less than women in appreciation of changes in intensity (Shuter, 1968: 90).

In conclusion, it is apparent that there is a wide range of variation with respect to the rate of development of various aspects of musical ability both between sexes and among members of the same sex.

Evidence Regarding the Development of Cognitive Functioning

It is evident in the research that there is a change in

cognitive functioning with increasing age. Studies by Ausubel (1968: 191), Gollin (1958), Piaget (1950) and Goldman and Levine (1963) suggest that with increasing age the stimulus world is perceived more in general, abstract and categorical terms and less in tangible, time-bound and particularized contexts. With increasing age the cognitive field widens temporally and spatially as shown by such studies as those by Baker (1942), Hill (1930), and Probst (1931). More subtle inferences may be made from empirical data (Bruner, 1964). Cognitive processes become both selectively more schematic (Gibson, 1953) and less subjective and egocentric (Baker, 1942; Piaget, 1928, 1929) as age increases.

It appears that some dimensions of intellectual change are characterized by continuous or quantitative change while other dimensions of intellectual development appear to exhibit discontinuous or qualitative change. Ausubel (1968: 196) cites examples of the former, and Inhelder and Piaget (1958) and Piaget (1950) show the transition from subjective thought or the change from concrete to abstract cognitive operations over time.

Piaget has formulated a sequence of developmental stages as follows: sensory motor; pre-operational; concrete-operational; and hypothetic-deductive-operational. Ausubel (1968: 191-197) cites a number of studies which have been directed either toward replicating Piaget's studies (Elkind, 1961), or to investigating various problems raised by the concept of Piagetian stages, viz., the variability at which the stages are reached (Case and Collinson, 1962; Goldman, 1965; Jackson, 1965; and Lovell, 1951). Ausubel further cites evidence that the variable rate at which each stage is reached

reflects differences in intellectual endowment (Goodnow and Bethon, 1966; Jackson, 1965), and experiential background (Greenfield, 1966; Deutsche, 1937). Case and Collinson (1962) have shown that there may be a regression to a former developmental stage when a subject encounters a problem which is too difficult for him. It would appear, then, that there is a transition from one stage to the next.

Ausubel (1968: 193) argues that the Piagetian stages "imply nothing more than identifiable sequential phases in an orderly progression of development that are qualitatively discriminable from adjacent phases and generally characteristic of most members of a broadly defined age range." While all the stages are qualitatively discriminable from each other, not all the characteristics theoretically necessary will be actually present. Further, additional characteristics not theoretically necessary to that stage but characteristic of another stage may be present. Thus interpreted, these stages become ideal types. It is emphasized that environmental and sociocultural influences affect the rate at which each stage is reached and its mode of operation.

Pflederer (1964) has attempted to identify the Piagetian stages in the development of musical ability. She found that the answers given by five-year olds were indicative of pre-operational thought while those of eight-year olds were indicative of the beginning of operational thought. She found that the stages were easier to identify in rhythm than in pitch.

In conclusion, then, it appears that the Piagetian notion of stages constitute ideal types which are useful in describing and identifying the developmental changes in cognitive functioning.

The writer concurs with Margery Vaughan (1973) in her statement that 'creativity' involves "the life of mind at its highest order of functioning." Vaughan claims that creative behaviour is typically accompanied by high levels of energy and she postulates four stages or developmental sequences based on this idea of energy levels, summarized as follows:

Stage 1 — Acquisitional: A person achieves concepts and attitudes. This is the pre-creative stage.

Stage 2 — Combinatorial: A person begins to reshuffle ideas. This requires an increasing amount of attention. It may be represented by trial and error and outcomes are not predictable.

Stage 3 — Developmental: A feeling of geometric rather than additive growth, i.e., organic rather than additive growth.

Stage 4 — Synergistic: Here the creative endeavours of the individual come together with the requirements of society and the evaluation shifts to peers rather than the individual.

In this formulation there is an implicit assumption that only when the expectations of a given social group or society are known with respect to the characteristics of an acceptable musical performance or composition, can the degree of creativity be judged. Another implicit assumption in this formulation is that creative thinking cannot be distinguished qualitatively from non-creative thinking, i.e., 'divergent' versus 'convergent' thinking, but rather quantitatively, i.e., a difference in degree. This is supported by reference to studies of the physiology of the brain to be discussed later in this chapter.

This four-stage model is then superimposed on a spiral model whereby the individual returns to Stage 1 again on an expanded level. Vaughan (1971, 1972) has shown that creativity may be differentiated

significantly from musical aptitude.

It is postulated here that the Vaughan model could be superimposed on any Piagetian stage and that growth in each case would be more rapid if emphasis were laid in the area of developing true creative behaviour, i.e., synergistic stage 4 above. This is represented diagrammatically in Figure 10. In this figure, the four Piagetian stages are outlined in step-wise fashion. Superimposed on the fourth stage, in this case, are student growth curves A and B. A is the growth curve following a music program featuring reception learning (i.e., where material to be learned is typically presented to the learner in final form). B is the growth curve following a music program where the aim is toward the highest level of creative ability possible within the constraints of maturation, intelligence, musical aptitude and so on.

It appears that the Vaughan stages of creativity constitute ideal types and are useful in identifying the levels of creativity. If one accepts the Vaughan formulation in this manner, then greater emphasis is placed upon cognitive structure for it is only when this structure is well-established that creativity can proceed. This places stress upon the clear conceptualization of the structure of music and on its presentation to the student. This approach accords with recent physiological findings with respect to the brain as will be noted below. It also fits in with Ausubel's notion of 'cognitive structure variables' and 'advance organizers' (Ausubel, 1968: 131-147).

It is well established that the nervous system exhibits physiological and anatomical plasticity. It is evident that there is a fundamental coding of the nervous system which takes place during

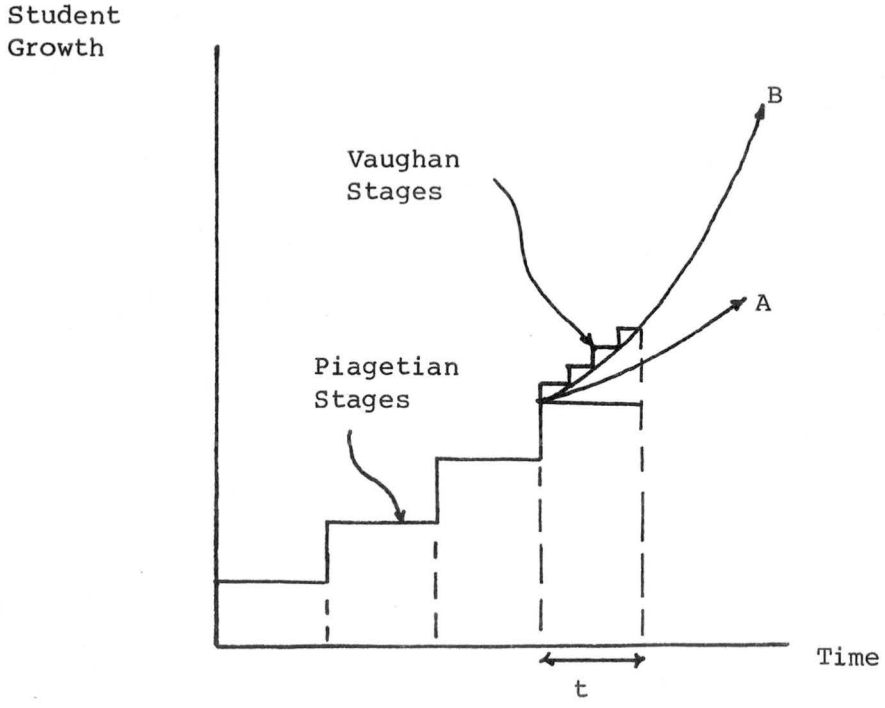

Figure 10

The Relationship Between the Piagetian Stages and the Growth Curves Under Reception Learning (A) and the Vaughan Formulation (B)

embryonic development, likely as a result of a blueprint laid down in the genetic code (Ungar, 1973). However, subsequent plasticity is evidenced in research reported by Raisman (1973), Berry, Hollingworth, Flinn and Anderson (1973) and Bliss and Gardner-Medwin (1973).[2] The evidence points to the principle that use of neuronal processes leads to growth and disuse leads to degeneration.[3] It is also apparent that physiological and anatomical changes accompany the development of cognitive function.

Evidence Respecting the Relationship of Emotions and Cognitive Functioning

It has been shown that the 'reticular activating system'[4] monitors incoming sensory stimuli from a number of modalities, e.g., visual, auditory, somatic, and olfactory. It is known that the thalamus plays a key role in the transmission of such stimuli to the neo-cortex (Shepherd, 1974). Further, the reticular activating system plays a central role in attention level, as shown by the experiments of Hernandez-Peon, Scherrer and Jouvet (Woolridge, 1963: 141).

Considerable psychological research has been reported indicating that emotional maladjustment inhibits learning as exemplified in research findings on the effects of chronic anxiety upon learning (Ausubel, 1968: 405) and on related appropriate instructional procedures (Hewett and Blake, 1973).

Recent research suggests the hypothesis that the emotional reaction specific to the learning process affects the chemical synthesis in the core brain thereby affecting the neuronal connectivity in other cortical areas of the brain (Glassman and Wilson, 1973: 88).[5]

The centrality of neuronal circuitry in the nervous system is well established. Further, there is extensive evidence pointing to the role of neural circuits in enabling memory storage and retrieval and thinking. Hebb (1949) proposed that learning constitutes changes in the conducting paths in the brain leading to the establishment of cell groups with facilitation for transmission between the individual cells. While research evidence reveals that his theory oversimplified some mechanisms which he claimed were operative, e.g., short-run memory constituting reverberation in circuits, yet his general principle of the role of circuitry appears to be well established.

The specialization of neural cells appears to be related to their functions (Shepherd, 1974). One may point, for example, to the anatomy of the cerebellum with its distinctive Purkinje and Golgi cells in contrast to that of the cortex with its characteristic columnar organization and pyramidal cells. Neuro-physiologists have pointed to the role of the columnar organization in the cortex, for example, in enabling specialized circuits (exhibiting feedback properties) which may link up in a larger network of circuits.

The process of synaptic linkages has been intensively studied and while the precise nature of all the electrochemical processes are not fully understood it is apparent that protein macromolecules provide a coding system whereby direction is provided in the formation of circuits via neuronal synapses. This concept of electrochemical transmission of messages and the formation of circuits is currently hypothesized as the basis for learning and memory (Ádám, 1973: 214; Ungar, 1973). Evidence reveals that synapses are strengthened by use and atrophy under disuse (Berry et. al., 1973: 235).

It could thus be hypothesized that learning takes place when a linkage between given circuit A (representing concept A) and given circuit B (representing concept B) is established in a circuit C (representing new concept C). Thus:

Circuit A + Circuit B ⟶ Circuit C

Similarly, forgetting could be hypothesized to take place when either the linkage between circuit A and circuit B had not been firmly established in the first place, resulting in no macromolecule change and resulting coding changes, or when through disuse the linkage between circuits A and B had atrophied to a point that circuit C had broken down to its component parts and the entire circuit no longer automatically fires. Thus:

Circuit A + Circuit B ⟵ Circuit C

This could constitute a physiological explanation for the theory Ausubel (1968) proposed at the psychological level.

Pribram's theory of memory (Tritthart, 1969) constitutes an interesting corollary to the concept of electrochemical transmission of messages by neuronal circuits. He conceives of memory as being stored in terms of holographic storage. Holography is a by-product of laser research discovered by Gabor. If a photographic plate situated above the object to be reproduced is illuminated by a coherent laser light beam, interference and refraction combine to produce an hologram or an apparently meaningless figure on a plate. If, however, this hologram is again exposed to the coherent light of a laser, a three-dimensional picture of the object appears. The essential advantage of the holographic hypothesis of storage is that the information emanating from one part of the object will be scattered over the whole

surface of the hologram and is therefore resistant to destruction. Further, even if a small part of the hologram is appropriately illuminated, the whole of the picture appears. Holograms can also be superimposed and then separately observed. Tritthart points out that neuronal processes which are proposed as the carriers of holographic information storage share a common mathematical basis with laser photography. This could constitute a physiological explanation for a variety of phenomena observed by associationist and gestaltist schools of psychology, for example.

Evidence with respect to the role of the frontal lobes of the cortex in the provision of direction for cognitive activity may be noted. A number of studies on the effects of frontal lobotomies and frontal lesions on subsequent behaviour have been conducted. The oft-cited example of Phineas Gage (Woolridge, 1963: 146) after loss of a large portion of his frontal lobes is a case in point. Investigators have found that the frontal lobe of the brain has special significance for the organization of the total sphere of active voluntary activity in man (A.R. Luriya and associates, 1962, cited by Poliakov, 1972: 60). There is a close interrelationship between the frontal lobes and the reticular activating system and limbic-midbrain circuit (Shepherd, 1974: 292) thus providing the physiological basis for the claim that the frontal lobes of the cortex provide direction. It can be argued, then, that within the constraints imposed by the reticular activating system and the functioning of the limbic system, control may be exercised over the expression of emotions and the direction of cognitive processes.

The conscious control or direction afforded by the frontal

lobes and other associated structures will be referred to as 'the directive process'. It is apparent that individuals have differential control over their emotions and their thoughts. In part, this may be a result of the operation of the reticular activating system and the limbic system, but it may also be due to the differential ability or willingness of individuals to exercise control over their thoughts and emotions. This naturally implies that the directive process must be developed through learning.

The question of the directive process raises issues which the positivist by virtue of the nature of his assumptions about man cannot address. The concentration of experiments on the role of the hypothalamus in motivation (Valenstein, 1973) is indicative of the fact that the positivist must assume the centrality of the reticular activating system in consciousness if he is to explain thinking in biological terms. Woolridge (1963) notes that scientists have a distinct problem in explaining consciousness, and the present writer maintains that they would have an equally difficult time explaining the directive process. The positivist must assume that thoughts have been stimulated before he begins his observations. He cannot address the question of where the thoughts came from in the first place.

It is also apparent that immediately some mechanism of directive process on the level required in human thought processes and conduct of human activities is allowed, the question of religious and moral beliefs about which the directive process is developed becomes an important one. It is obvious that religious experience and a set of moral values and expectations are common in all societies - from the most primitive to the most advanced. Zentner (1972a) cites various

ideal types of religious belief in different societies. A comparative analysis of New Guinea primitive tribes and the aborigines in Australia, mediaeval European societies, and industrial or atomic age societies in the West reveals numerous examples of the universality of religious experience and moral values and codes.

Langer (1948) has identified correspondences held between religious experience and the arts as forms of non-discursive symbolization. Typically, an analysis of forms of non-discursive symbolization must fall within the purview of phenomenologically-oriented methodologies. From the foregoing discussion of the directive process it is apparent that the analysis must go beyond the anatomical and physiological levels and take account of questions of moral values and social expectations. In accepting the notion of a 'synthetic' methodological paradigm as proposed in Chapter II and in the recognition that a theoretical treatise in pedagogy must address questions at a variety of integrative levels - from the physical to the socio-cultural and historical, the alternatives of either rejecting a consideration of matters outside the purview of anatomy and physiology on the one hand, or of rejecting matters outside the purview of sociological and religious analysis in the phenomenological tradition on the other, are equally unacceptable. Having built the analysis on as firm a ground at the physiological/biological level as possible, it is necessary to go on to address questions which must be explained at higher levels of generality and inclusiveness, i.e., psychological and social nexii.

In summary, then, the assumptions concerning the developmental aspects of musical ability, cognitive functioning and emotional response

in relation to cognitive functioning have been discussed. Research evidence has been presented in support of each of the various assumptions. It has been assumed that the Piagetian stages constitute ideal types which are useful in identifying and describing the developmental changes which take place in cognitive functioning. Further, it has been assumed that the Vaughan stages constitute ideal types which are useful in describing and identifying the stages of creativity. The role of social expectations in the evaluation of creative performance has been noted. Respecting emotional development, the close relationship between the emotions, cognitive functioning and the operation of the limbic system has been assumed. Further, it has been assumed that the directive process acts to control (within various physical constraints) the cognitive processes and the emotional expressions. Finally, it is assumed on the basis of the foregoing discussion that it is necessary in the development of pedagogical theory to go beyond the physical and biological integrative levels to a consideration of the psychological and social issues.

ASSUMPTIONS CONCERNING THE EMPATHETIC RELATIONSHIPS BETWEEN TEACHER AND STUDENT IN THE PEDAGOGICAL PROCESS

It is useful at the outset to examine the nature of results which have emerged from research on the pedagogical process to date. It is not the writer's intention to embark upon a comprehensive survey of individual studies but rather to draw a number of summarizing generalizations which indicate several areas of thrust.

Rosenshine (1970) notes that research into teacher qualities essential for effective classroom performance has not proved conclusive.

In their review of correlational studies on teaching behaviour and student achievement, Rosenshine and Furst (1973: 156, 157) note nine variables which appear to have yielded the most significant and/or consistent results across the studies. They are as follows:

1. Teacher clarity
2. Variability or flexibility in procedure
3. Teacher enthusiasm
4. Task-oriented and/or businesslike, i.e., teacher stimulation of thought or acquisition of information and skills
5. Criticism by teacher
6. Teacher indirectness, i.e., including "use" of student ideas
7. Student opportunity to learn criterion material
8. Structuring comments, i.e., what will happen or what has happened?
9. Multiple levels of questions or cognitive discourse.

They note, however, the problem of lack of conceptual clarity in various of the variables mentioned above and also the problems in measuring some of these variables.

A number of factors have been related to student attitudes. Kahn and Weiss (1973) in their review of the research literature relating various variables to student attitudes note a similar difficulty in research due to both conceptual and methodological problems. The reader is referred to Figure 11 which constitutes a diagrammatic summary of the major influences which appear from the literature to affect the students' school-related attitudes. This diagram is not intended as a model but simply as a summary of the relationships which follow from the research. The arrows represent

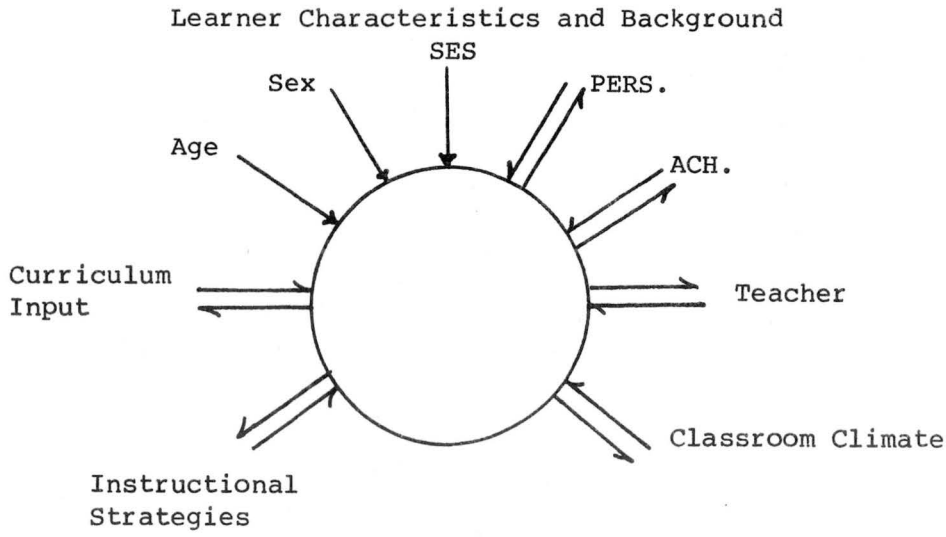

Figure 11

A Schematic Representation of Various Effects
on School-Related Attitudes

(SES - Socioeconomic status; PERS - Personality; ACH - Achievement)
After Kahn and Weiss (1973: 770) Fig. I

hypothesized directions of causation. However, when one examines each factor in more detail, the superficiality of present understanding as to the operation of each factor becomes evident.

It appears valid, therefore, to conclude that pedagogical research, in spite of its proliferation, has yielded little illuminating evidence. Numerous studies have concentrated upon "what the teacher does" and "what the student does", rather than upon "what the teacher is" and "what the student is" in addition, and attempting to proceed from there to understand the precise nature of the interaction between teacher and student.

Further, at the theoretical level, a number of additional problems persist. A variety of learning theories have been proposed chiefly at the psychological level. Among these, Operant Conditioning (Skinner, 1957), Gestalt theory (Koffka, 1935), Interference theory (Osgood, 1953), Cybernetic-Information theory (Newell, Shaw and Simon, 1958), Assimilation theory (Ausubel, 1968), and Hebb's theory (1949) have achieved prominence. Among lesser known approaches is the Mathematical learning theory of Atkinson, Bower and Crothers (1965).

The formulation of learning theory has itself been plagued with a number of methodological problems. Firstly, the majority of experiments have been conducted at the psychological level and results have then been extrapolated up to the social nexus, or down to the biological nexus, or both. In part this has been rendered necessary until comparatively recently by the difficulty in obtaining information relative to the biological structures involved. The development of electron microscopy, more sensitive instrumentation, and refinement of experimental techniques has made possible some major breakthroughs

at the biological level. However, large gaps in the understanding of the cellular structures and functions still remain.

In the above discussion of methodological issues it was noted that it is unsound to extrapolate from one level of complexity of data to another. It has been argued that at each integrative level, i.e., from the physical to the cultural and historical, there are distinctly different questions of causation to be addressed. Therefore, a given theory of learning must incorporate all levels. In basing their learning theories on psychological experiments only or even primarily, psychologists have traditionally exhibited insufficient regard for the biological and social aspects. With respect to the neglect of the physical/biological bases for learning in particular, the following analogy may be made. A researcher may wish to know how many teeth are in a horse's mouth and what is their nature. One approach is to speculate concerning the horse's mouth and by a series of logical deductions and by using a series of experiments in which the horse is made to chew grass and then a series of calculations of the estimated number of horse teeth (based upon considerations of the nature of the grass, the rate at which its jaws move and the amount of grass chewed), the investigator may arrive at some hypotheses concerning the nature and number of horse teeth. Alternately, an investigator may simply corral a horse, open its mouth and examine its teeth.

While the above analogy is an extreme one, and while the process of obtaining information relating to the anatomy, physiology and biochemistry of the brain is by no means as simple as counting horse teeth, the principle is a valid one. One would have expected far more attention to have been paid by educational researchers to

evidence arising from such areas as anatomy, physiology and bio-chemistry. Hebb's theory (1949) is one of the few giving attention to the probable cellular processes which make learning possible. Hilton (Ansell and Bradley, 1973: 261) has noted the absence of dialogue between educational psychologists and the neuro-scientists. A further illustration is provided by the compendium of experimental studies of thinking (Duncan, 1967) in which there is not a single study relating to the physiological processes involved, but rather a host of psychological studies by which deductions are made regarding the thinking processes.

Not only has there been a proliferation of learning theories, but there has also been a corresponding growth in the number of theories of instruction and teaching. Macdonald and Leeper (1965) argue that the terms 'instruction' and 'teaching' may be differentiated from each other and also from 'learning'. They define 'instruction' as the interaction of teaching and learning, and 'teaching' as relating to the behaviour of the teacher alone. They argue that instruction relates to social processes whereas learning is essentially an individual experience. However they also note that in each of the terms, i.e., 'teaching', 'instruction' and 'learning', there is a common area of focus and a consequent overlapping and congruence. As a result of this type of argument the proliferation of theories of instruction and teaching has continued. The variety of theories of instruction and teaching is illustrated in the work of Broudy (1965), Ryans (1965) and Maccia (1965) to name a few. A similar variety of theories of teaching is revealed in the compendium of models of teaching by Joyce and Weil (1972).

It is evident, therefore, that traditional approaches to learning theory and associated theoretical developments in instruction and teaching have yielded divergent and often conflicting viewpoints, and the evidence has been far from conclusive. It may also be argued that traditional approaches in pedagogical research and theoretical formulation have not yielded an understanding of the fundamental processes involved. We turn, then, to an alternate theoretical approach which focusses on the fundamental process of interaction between teacher and student and which is formulated such that the variety of integrative levels of analysis may be addressed.

Following from the evidence with respect to the centrality of the emotional reaction specific to the learning situation (within the differential constraints of the 'directive process' whereby some cognitive control may be exercised) the present analysis focusses upon the 'reciprocal empathetic relationship' between teacher and student.

It is first assumed that various readily recognizable and theoretically identifiable 'types' of teachers and students may be identified. The concept of typing of teachers or constructing teacher 'stereotypes' is not new. Drumheller (1974) notes its characteristic use in teacher evaluation. Mackie (1972) examines teacher stereotypes with a view to discovering folk beliefs with respect to a number of sociological dimensions having little to do with teacher performance in the classroom. Foff's (1958) content analysis of 62 American novels cited by Mackie (1972: 268) found teachers depicted as "mostly female, unattractive, sexless, and mediocre citizens who were expected to behave just as their grandparents had." In describing the

characteristics typically used in the evaluation of teachers, Drumheller notes the superficiality of the categories and their semantic ambivalence and lack of conceptual clarity. It is evident, therefore, that much of the information arising out of a consideration of teacher types has yielded little in the quest for a fundamental understanding of the nature of the pedagogical process. Vernon (1973) notes that people tend to place others in stereotypes and that this is a natural endeavour.

Bartky (1953) develops an analysis of teacher personality types treated synthetically. He cites two typologies; one based upon psychological typing after Karl Menniger's classification which concentrates on abnormal rather than normal behaviour, and the other based upon a socio-psychologically biased approach derived from Havighurst and Taba's classification of adolescent personality. The second is relevant to this study. Bartky (1953: 69, 70) develops five teacher 'types' as follows:

1. The Self-Director Teacher
2. The Adaptive Teacher
3. The Submissive Teacher
4. The Defiant Teacher
5. The Unadjusted Teacher

His typologies evidence two difficulties: First, the categories are too broad to enable the utilization of teacher and student types in an analysis of the interaction between teacher and student. Second, the typology is cast predominantly in the psychological domain rather than in the socio-cultural domain as well.

What we are searching for, however, is a system of teacher and

student types which will enable an analysis of the interaction process in pedagogy. Further, that system of teacher and student types should also encompass not only what the given teacher and student do, but what they are in addition. It should include not only psychological elements, but socio-cultural elements as well.

What is proposed, then, is the notion of two ideal types; on the one hand, 'reciprocal empathy' and on the other, 'reciprocal antipathy' analogous to Merton's deviance paradigm (Loomis and Loomis, 1965: 274). We have on the one hand in reciprocal empathy, complete congruity between teacher and student types we identify, and on the other hand in reciprocal antipathy, complete divergence between teacher and student types. Each of the composite teacher and student types represents a modification in respect of one or more of the generic structural components that summatively (mathematically) and collectively define the larger containing ideal types.

The concept of 'empathy' has not been well defined. If we regard it as the resultant of teacher-student 'empirical type mixes' we may identify a number of structural components which together define the larger containing ideal type - 'empathy'. No attempt is made in the present study to define these component elements exhaustively or systematically. Such a definitive study obviously lies outside the scope of this analysis. Sufficient to indicate, rather, that several individual factors have been found by researchers to account for significant differences in student learning. Upon further study, these factors may be found to play an important role in the delineation of student and teacher empirical types and their interaction in empirical type mixes, e.g., affective responsiveness and willingness to

trust; preoccupation with process and organization; degree of commitment; degree of drive; quality of enthusiasm; degree of conformity to traditional or current values; achievement motive; degree of personality adjustment, and so on. Presumably each empirical type teacher will be characterized by a distinctive profile which emphasizes a facet of the containing ideal type - empathy.

Let us assume the following:

1. Perfect knowledge, i.e., we are able to accurately perceive characteristics of teachers and students.
2. Zero time, i.e., the analysis is conducted in the context of a a given social and actual time and space.
3. The profile of discriminating dimensions which contribute the characteristics of each empirical type of teacher and student may be accurately determined.

Following these assumptions it is possible to propose at any given time (t) a list of N empirical types of teachers (N_p) and N empirical types of students (N_s). No assumption is made concerning the equivalence of the numbers of empirical types of teachers and students.

It is appropriate to clarify the role of changes in time and space with respect to the operation of the hypothesized empirical types of teachers and students. First, it should be noted that a given individual may pass through a number of predominant empirical types during his/her career as a student or teacher. For example, the change in Mlle. Henri under her professor's tutelage is described in Charlotte Bronte's novel, The Professor. The professor says of the change:

> To speak truth, I watched this change much as a gardener watches the growth of a precious plant, and I contributed to it too . . . urging her actions, yet helping her too, . . .

Not only may there be a gradual change through life in terms of a predominant empirical type, but there may also be an ambivalence between several empirical types over a relatively short time span. This may be the case for both teachers and students. A teacher, for instance, may represent Type A on Day 1, Type B on Day 2, and Type A on Day 3.

Further, teachers and students may be "actors" in which case they may assume the role of a given type because they assume this is called for by their superiors or peers. For example, a given teacher may be rather introverted or alternately easy-going outside the classroom. When in front of a class, however, that teacher acts the part of a martinet. This may result in personality conflicts and frustration for either teacher or student involved if maintained over a long period of time. An example is shown by Rick Dadier, hero of Evan Hunter's novel, The Blackboard Jungle, who acted the part of a martinet because he had been instructed to do so by the principal and he believed that this was the only way to break through to a tough group of high school students. The following quotation may be cited:

> He had been a little Caesar, true, right from go, and in the best little Caesar manner. He had done it purposely, though, because the first day was the all-important day . . . So, whereas being a little Caesar was contrary to his usual somewhat easy-going manner, he recognized it as a necessity . . .

Second, it should be noted that for any one individual, there may be a variety of different opinions as to the predominant type into which the teacher or student appropriately fits. Zentner (1973) has pointed to the hierarchical structure of organizations and the differential visibility of events. A given teacher, for example, is viewed differently by administrators, parents, peers and students -

each with their own view of the events which are taking place in the teacher's classroom. Thus, while a given teacher could conceivably place herself in a given predominant empirical type, her students, colleagues and superiors may, according to their differential perceptions of her, place her in a variety of other empirical types. Some events which are visible to the teacher are not visible to either superiors, peers or students. Similarly, there are some relevant events which may not be visible to the teacher, e.g., a student who is upset in class and reports to his parents, who, in turn, complain to the administration. While the teacher may hear of this event after it has taken place he/she may still have a different perception of it than do the parents and administrators who may have been involved in a heated discussion over the issue.

Third, it should be noted that the operation of each type may vary through time and space. A given teacher or student type may be expressed through different vehicles and in different ways at given time t_1 than at given time t_2. A given teacher or student type may also be expressed differently in given society A at given time t_1 than in a given society B at given time t_1.

Fourth, because education is a means of socialization, account must be taken of the socio-cultural considerations which effect changes in these types through time and space and which result in the attachment of values to them. There is extensive evidence for the change in values attached to types of teachers and students over time. In eighteenth century England, the "martinet" was highly valued and the range of teacher types tolerated was quite narrow. Presently, it would appear that the "warm affective" is prized and there is a far

greater range of teacher and student types than was typical in eighteenth century England.

It is also possible to cite sub-cultural differences in values attached to empirical types and their manifestation through time and space. One example of such sub-cultural differences in terms of social space may be cited. Fagin, in Charles Dickens' novel, Oliver Twist, rewarded his pupils for activities which would have brought severe punishment if uncovered in the public schools of the day.

The foregoing analysis is further complicated by the assumption that any given teacher or student may at any given time evidence an hierarchical structure of both explicit and implicit empirical types. Consider Figure 12. Let us assume the following:

1. Let (A . . . J) represent empirical types of teachers which may be either explicit or implicit for individual teacher X.
2. Let observations be made at times t_1, t_2, and t_3 respectively.
3. Let the empirical types be ranked hierarchically in all cases from the highest to the lowest.
4. Let there be perfect knowledge.

Following from these assumptions it is hypothesized that from the behaviour of teacher X in the classroom, a predominant empirical type will be deduced, being A at t_1, B at t_2, and E at t_3. Further, a number of characteristics may be present which may be typical of other empirical types and an analysis of these characteristics yields the hierarchies evident at times t_1, t_2, and t_3. It is further assumed that beneath the explicit actions of teacher X is an 'implicit' hierarchy of empirical types which may or may not surface in the teaching situation and which may or may not be consistent with explicit

t_1	t_2	t_3	Rank	t_1	t_2	t_3
A	B	E	1	A	B	F
B	C	D	2	B	E	G
C	A	C	3	C	D	H
D	D	B	4	D	C	I
E	E	A	5	E	A	J
EXPLICIT				IMPLICIT		

Figure 12

The Relationship of Hypothetical Hierarchies of Implicit and Explicit Empirical Types

actions. These are also detailed for times t_1, t_2, and t_3 and are ranked hierarchically from the highest to the lowest. Three principal situations may exist:

1. $E_{t_1} = I_{t_1}$

where E_t is the ranking of explicit empirical types and I_t is the ranking of implicit empirical types. In this case the rankings of the explicit and implicit hierarchies are the same.

2. $E_{t_2} \neq I_{t_2}$

In this case the predominant empirical type, i.e., both explicit and implicit, is the same. However, the rankings of subsidiary empirical types for both explicit and implicit empirical types is different. A superficial analysis of E_t and I_t would not reveal any disparity as the predominant empirical types are the same.

3. $E_{t_3} \neq I_{t_3}$

In this case, none of the rankings are the same and it is assumed that the implicit empirical types do not surface in terms of action. The reasons for this may vary. Certain societal constraints may prescribe certain types which are not compatible with those of the teacher. Thus the teacher is forced to 'act' the part of a given type he/she assumes is acceptable. The possible repercussions of continuance over a long-run situation where $E_t \neq I_t$ and where the teacher is continually forced into a position of an actor may be noted. This could readily result in neuroses or various degrees of frustration depending on the extent of the disparity between E_t and I_t.

Bartky (1953: 60, 61) notes that social expectations are

typically associated with various physical characteristics. He argues that we base our expectations of others, in part, upon their appearance. If a teacher plays an assumed role which is seemingly incongruous to the students, a breakdown in discipline and rapport results. This indicates the existence of a margin of tolerance of disparity between E_t and I_t. If this margin is exceeded, obviously such repercussions as those Bartky notes will follow.

A complete and systematic analysis of both the relationship of empirical types of teachers and students, in the context of the possible disparities between their associated implicit and explicit hierarchies of empirical types and their repercussions in terms of student affective response and learning, is outside the scope of the present analysis. Rather, it is the writer's intention to indicate a framework within which further research may be directed.

Granted the assumptions as follows:

1. time is held constant, i.e., zero time;
2. there is perfect knowledge;
3. a pure profile of characteristics for each empirical type is present in each case;
4. explicit and implicit types are one and the same for each empirical type;
5. there is a possible range of N_s empirical types of students and N_p empirical types of teachers;
6. there is no effect of the teaching material upon the teacher-student interaction;

then it follows that a matrix of hypothetical 'empirical type mixes' may be drawn up as in Figure 13. It is obvious that while the

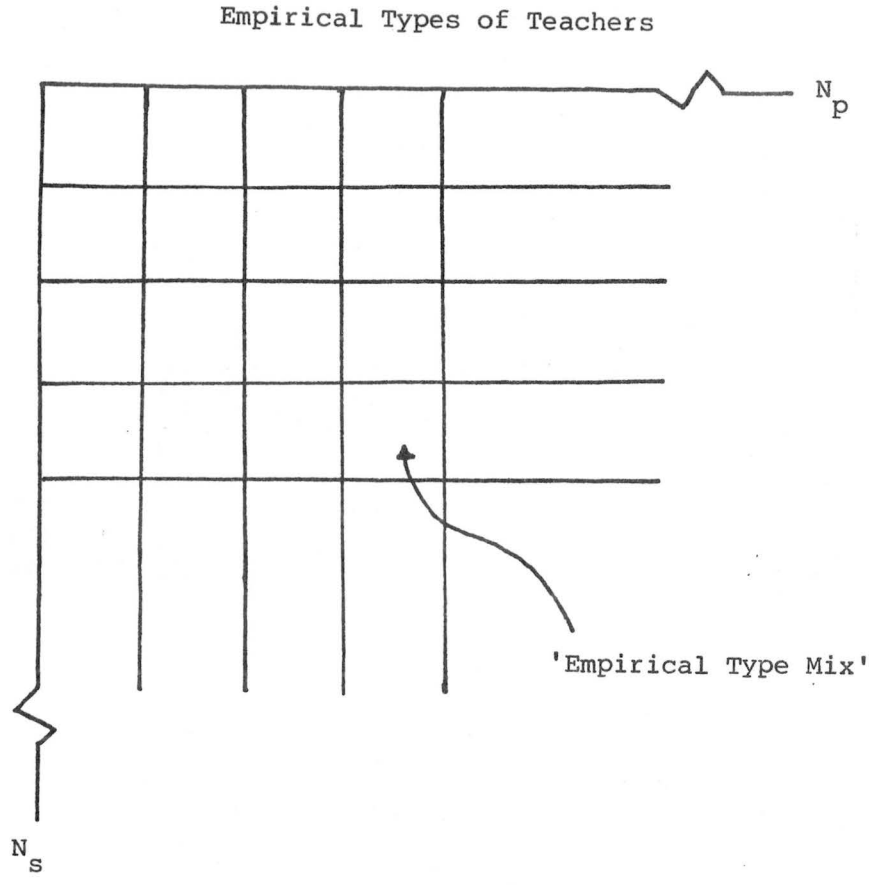

Figure 13

Matrix of Hypothetical 'Empirical Type Mixes'

six assumptions proposed above are unrealistic, there is precedence for the proposal of such assumptions in static micro-economic models, which may be later modified to take account of certain dynamic considerations. The chief advantage of such a static or quasi-static approach is that it enables a clarity of theoretical conceptualization and logical deduction. Each of the cells in the matrix is an 'empirical type mix'. Within each cell of the matrix it is hypothetically possible to predict certain outcomes.

It is assumed that the proposed matrix of hypothetical relationships between empirical types of teachers and students lies at the core of the current theoretical analysis. The basic question to be addressed and which is at issue here is: "Why the centrality of empirical type mixes?" Kaplan, Burch and Bloom (1964) report on two studies relating physiological co-variation to the affective orientation (positive or negative) between members of a small group. Serl and Woods (1975) report four cases in which two individuals have produced almost exact duplication in their P.G.R. (Psychogalvanic Skin Response). The writer proposes that this co-variation of physical indices is the physiological basis by which an 'empathetic' relationship may be indicated. The term 'empathy' has not been well understood or defined. If, however, in the context of the present analysis, 'empathy' is defined as the resultant relationship (a mix of intellectual and emotional response) following from the combination of teacher and student empirical types and indicated by co-variation of physical indices, then it follows that:

1. Empathy varies in quality, i.e., according to the mix of cognitive and affective responses.

2. Empathy varies in quantity, i.e., according to the extent of the co-variation between any two or more individuals.
3. Empathy varies in diffusion, i.e., according to the size of the group with which empathy is shared (in different quantity and quality).

It may then be hypothesized that empirical type mixes vary along a continuum from 'reciprocal empathy' at the one polar extreme, to 'reciprocal antipathy' at the other polar extreme and thus they will promote various types of 'empathetic relationships' and varying degrees of optimization of student learning. Further, it is hypothesized that learning is maximized at the point of 'reciprocal empathy'.

This postulated role of 'empathy' in the pedagogical process, not as an end in itself or as a teaching goal, but rather as a resultant from the operation of given empirical types of teachers and students together accords well with physiological evidence cited in Assumptive Set B above, respecting the central role of the emotional response specific to the learning situation.

In the present Assumptive Set C, then, it has been assumed that there are readily recognizable and theoretically distinguishable 'empirical types' of teachers and students which summatively and collectively define the larger containing ideal type - empathy. The characterization of these and an analysis of the teacher-student empirical type mixes yields a continuum between the two polar points of 'reciprocal empathy' and 'reciprocal antipathy'. It has also been assumed that the dimensions of time and space must be taken into account in the analysis. The possible explicit and implicit hierarchical

structure of empirical types for any individual have been noted. The relationship of 'reciprocal empathy' to the 'empirical type mixes' and the resultant impact upon the effectiveness of student learning has also been noted. Empathy is here seen not as a teaching goal *per se*, but rather as the *resultant* of the interaction between teacher and student empirical types.

Summary

Table 4 comprises a systematic list of assumptions which forms a summary of the preceding analysis respecting the Pedagogical assumptions in music education. For ease of future reference, these are coded decimally. All assumptions prefixed by 5.0 are those assumptions covered in Chapter V, i.e., Pedagogical assumptions.

Table 4

A Systematic Coded List of
Pedagogical Assumptions

5.1 Assumptions Concerning the Nature of Pedagogy

5.101 The pedagogical process is defined as the process of 'mythologization' determined by the norms of the 'developers' which may vary through time and space.

5.102 The process of 'mythologization' is defined as the process of passing on of values, beliefs and knowledge about the body of sacred and secular wisdom which has been collected within a given society or socio-cultural group.

5.103 The kinds of knowledge, ideas and their structure and the process by which 'mythologization' proceeds is determined by the norms of the developers.

5.104 The pedagogical process takes place in the context of changes in time and space, i.e., cyclical swings between the 'sensate' and 'ideational' polarities.

5.2 Assumptions Concerning the Developmental Aspects of Musical Ability, Cognitive Functioning and Its Relationship to Emotional Response

5.201 There is a gradual refinement in response to music with increased age in childhood.

5.202 A minimum performance of motor skills is dependent upon an appropriate degree of neuro-muscular maturation but the development of the skill into a graceful coordinated performance is dependent upon continued practise.

5.203 There is a wide range with respect to the rate of development of musical ability both between the sexes and among members of the same sex.

5.204 The possibility of sex-linked differences in musical aptitude profiles remains.

5.205 There is a change in cognitive functioning with age.

5.206 With increasing age, the stimulus world is perceived in more general, abstract and categorical terms, and less in tangible, time-bound and particularized contexts.

Table 4 Continued

5.2 Assumptions Concerning the Developmental Aspects of Musical Ability, Cognitive Functioning and Its Relationship to Emotional Response

5.207 The cognitive field widens temporally and spatially with increasing age.

5.208 The cognitive processes become both selectively more schematic and less subjective and egocentric with increasing age.

5.209 Some dimensions of intellectual change are characterized by continuous or quantitative change while other dimensions exhibit discontinuous or qualitative change.

5.210 The Piagetian sequence of developmental stages, i.e., sensory-motor, pre-operational, concrete-operational, and hypothetic-deductive-operational, describe and identify changes in cognitive functioning.

5.211 The Vaughan levels of creativity, i.e., acquisitional, combinatorial, developmental, and synergistic, is acceptable as a working model of the creative process and it is assumed that this model operates in continuous spiral fashion.

5.212 Only when the expectations of a given social group or society are known with respect to the characteristics of an acceptable musical performance, can the degree of creativity be judged.

5.213 Creative thinking cannot be distinguished from non-creative thinking dichotemously. Rather, there is a quantitative change from the acquisitional stage to the synergistic.

5.214 Creativity is the life of mind at its highest order of functioning.

5.215 Creativity may be differentiated significantly from musical aptitude.

5.216 The Vaughan model may be superimposed on the Piagetian model.

5.217 Growth under a program of musical education stressing creativity will be significantly greater than that stressing reception learning.

5.218 Only when the cognitive structure is well established can creativity proceed.

Table 4 Continued

5.2 Assumptions Concerning the Developmental Aspects of Musical Ability, Cognitive Functioning and Its Relationship to Emotional Response

5.219 The nervous system exhibits physiological and anatomical plasticity.

5.220 The use of neuronal processes leads to growth and disuse leads to atrophy and degeneration.

5.221 Physiological and anatomical changes accompany the development of cognitive functioning.

5.222 Emotional maladjustment inhibits learning.

5.223 The emotional reaction specific to the learning process affects the chemical synthesis in the core brain therefore affecting the neuronal connectivity in other parts of the brain, i.e, neo-cortex.

5.224 The role of neural circuits in enabling memory storage and retrieval and thinking is a central one.

5.225 Time and reinforcement are necessary in order to establish the chemical synthesis essential to long-term memory.

5.226 Synapses are strengthened by use and atrophy under disuse.

5.227 Electrochemical transmission of messages and the formation of circuits are the bases for learning and memory.

5.228 Pribram's hypothesis of memory proposes holographic storage as a basis for memory.

5.229 The role of the frontal lobes in providing direction for cognitive activity is hypothesized. Control may be exercised over the expression of emotions and the direction of the cognitive processes within the constraints imposed by the Reticular Activating System and the limbic system.

5.230 The directive process may be developed through training.

5.231 The directive process is developed with respect to the religious experience and set of moral values and expectations common to the referent social group

Table 4 Continued

5.3 Assumptions Concerning the Empathetic Relationships Between Teacher and Student in the Pedagogical Process

5.301 There are readily recognizable and theoretically distinguishable 'empirical types' of teachers and students which summatively and collectively define the larger containing ideal type - 'reciprocal empathy'.

5.302 The characterization of these and an analysis of the teacher-student empirical type mixes yields a continuum between the two polar points of 'reciprocal empathy' and 'reciprocal antipathy'.

5.303 Each 'empirical type' teacher or student is characterized by a distinctive profile which emphasizes a facet of the total concept of empathy.

5.304 The analysis is conducted in the presence of the following assumptions: perfect knowledge; no influence of the teaching material upon the relationship of student and teacher; zero time, i.e., a given social and actual time and space.

5.305 A given individual may represent different types at different times and in different places. There is the possibility of ambivalence between types over a relatively short time span.

5.306 It is possible that there will be "actors".

5.307 The differential visibility of events results in the possibility of different perceptions of the 'predominant empirical type into which a given individual fits at any given time and place.

5.308 The actual operation of a given type may vary through time and space.

5.309 The desirability of the types is determined by socio-cultural considerations. Education is a means of socialization, and the values of the referent group must be considered.

5.310 There is a change in values attached to types over time.

5.311 There is a hierarchical structure of explicit and implicit types. The explicit and implicit types may not be equivalent

5.312 A matrix of hypothetical teacher and student empirical type mixes may be derived.

Table 4 Continued

5.3 Assumptions Concerning the Empathetic Relationships Between Teacher and Student in the Pedagogical Process

5.313 Empathy is defined as the resultant relationship (a mix of cognitive and affective responses) following the combination of teacher and student empirical types.

5.314 Empathy varies in quality, i.e., the mix of resultant intellectual and affective responses.

5.315 Empathy varies in quantity, i.e., according to the extent of the co-variation between two or more individuals.

5.316 Empathy varies in diffusion, i.e., the size of the group with whom empathy is shared.

5.317 Empathy is not a teaching goal per se. Rather, it is a resultant of the interaction of student and teacher types.

FOOTNOTES TO CHAPTER V

[1]Various theories have been held with respect to musical ability. These fall into three basic groups: (1) those theories which hold that musical ability is a profile of separate abilities, e.g., Seashore (1938), Bentley (1966), and Mainwaring (1947); (2) those holding that a group factor is evident, e.g., Holstrom (1963); and (3) those holding that musical ability is a general ability, e.g., Wing (1968). Drake (1933, 1933a) alternately proposes what he calls an 'integrative theory' in which he suggests that all elements of musical ability are held together by a memory factor. The most extensive factorial study in the field of music with which the writer is acquainted is that of Holstrom (1963). From his findings one can infer that Wing's position would be the most tenable, as strong inter-correlations between tests designed to measure the different aspects of musical ability and an important general factor underlying all such tests exists.

There is considerable difference of opinion as to the relative roles of heredity and environment in determining musical ability. Wing (1973) and Drake (1957) stress inate factors, while Farnsworth (1958) and Lundin (1967) stress environmental factors. There is a similar divergence of opinion respecting the role of genetic factors in the transmission of musical ability. Hurst (1912) maintained that music ability is a recessive gene, while Reser (1935) proposed that music ability is a dominant trait. Alternately, Scheinfeld (1956) propounded the notion of a combination of rare genes which intensify the effects of ordinary aptitude genes in a theory on the inheritance of conspicuous talent.

[2]Respecting physiological and anatomical plasticity, a case in point is represented by the experiments of the Diamond, Krech, Rozenzweig and Bennett group at the University of California at Berkeley (Rozenzweig, 1969). Rats were placed in enriched environments and impoverished environments and the effects of differential experience on the occipital cortex was noted. While the number of neurons was not significantly different, the cross-sectional area of neuronal bodies in rats in enriched environments increased about thirteen per cent indicating an approximately twenty per cent increase in volume. The number of glial cells also increased significantly in the case of rats in enriched environments. Glial cells are known to be implicated in the neuronal synaptic contacts (Berry, Hollingworth, Flinn and Anderson, 1973: 218). There was a significant difference between rats in 'enriched' and 'impoverished' environments in terms of <u>bulk</u> in the occipital cortex.

[3]Other evidence cited by Berry, Hollingworth, Flinn and Anderson (1968: 220) has shown that the growth of collaterals and

branches of axons is influenced by ongoing intrinsic activity. Similarly dendrites tend to branch more abundantly in enriched environments and show degenerative changes after deafferentation (Berry, Hollingworth, Flinn and Anderson, 1968: 223). Most synaptic contacts in the cortex are established on dendritic spines and the growth or degeneration of these spines has been shown to accompany deprivation or enrichment (Berry, Hollingworth, Flinn and Anderson, 1968: 220). Shepherd (1974: 326) cites studies by Valverde (1967) and Globus and Scheibel (1967) showing that a loss of dendritic spines or deformation of spines accompanies deprivation of visual input in the early weeks of a kitten's life.

[4]The Reticular Activating System is located in the reticular formation occupying the midventral portion of the medulla and midbrain. It is composed of myriads of small neurons arranged in complex intertwining nets with centres within it which regulate respiration, blood pressure, heart rate and other vegetative functions. In addition, it contains components which play important roles in the adjustment of endocrine secretion, regulation of sensory input and consciousness among other things. The system is non-specific in that most reticular neurons are activated with equal facility by different sensory stimuli. Closely associated with the reticular activating system is the limbic system consisting of a group of associated structures - the amygdala, hippocampus and the septal nuclei. One characteristic of the limbic system noted by Garong (1969: 196) is the paucity of neuronal connections between it and the neo-cortex. The limbic system together with the hypothalamus is concerned with the control of biological rhythms and thus relates to the regulation of instinctual and emotional behaviour.

[5]A number of lines of evidence support this hypothesis. The greatest change in macromolecule synthesis during learning takes place in the core brain. Hydén (1973c) observes that there appear to be two types of RNA synthesis during changes in behaviour, i.e., large scale changes and synthesis of ribosomal type of RNA of brain cells, which, while it is present during changes in behaviour, may not be necessarily affecting the changes of behaviour, and a more specific type of RNA change including a synthesis of small amounts of RNA with high ademine and uracil values which may be directly affecting the changes in behaviour (Hydén, 1973c: 70). A number of investigators have found that protein macromolecules are implicated in the formation of neuronal circuitry and without protein synthesis long term memory will not be formed (Barondes, 1970; Agranoff, 1973: 146; Ádám, 1973: 214). It is interesting to note, then, that while the minute production of about 10-20 pg. of nuclear RNA per nerve cell (in cortical and hippocampal nerve cells) has been correlated with the establishment of new behaviour (Hyden, 1973c: 70), it has also been found that bilateral lesions in the hippocampus prohibit long-term storage of information (Meissner, 1966; Ojemann, 1966; cited by Hydén, 1973a: 23).

Further, it has been shown that the hippocampus receives inputs from several sensory modalities (Van Hoesen, Pandya and Butters, 1972) and through the septum, inputs from the hypothalamus (MacLean, 1972).

The hypothalamus has been related to emotional reactions and to the limbic-midbrain circuit. This evidence, then, lends support to the hypothesis that emotional reaction to the learning experience could affect the synthesis of protein macromolecules in the core brain which in turn could affect the neuronal circuitry in the cortical areas.

CHAPTER VI

IMPLICATIONS FOLLOWING FROM THE ANALYSIS

In the foregoing analysis we have examined ten assumptive sets in three logically distinguishable areas of focus, i.e., structural, socio-cultural and pedagogical. A systematic coded list of assumptions within each 'cell' follows at the conclusion of Chapters III, IV and V. Within each of the cells the writer has critically examined some of the assumptions which form the basis for practise and research in the field of musical pedagogy. Alternate assumptions have been advanced which the writer claims are internally consistent with each other.

The foregoing analysis commits the writer to certain expectations which would follow from its implementation. These address the five major problem areas which were identified at the outset of the study in Chapter I. The writer's intention, then, is to submit these expectations as propositional statements within the context of each of the problem areas. No claim is here made as to the exhaustiveness of the list of expectations, The writer believes, however, that they constitute some of the major implications following from the present analysis. Accordingly, an extended discussion follows the statement of each proposition. The reader will note that each of the several propositions could be readily converted into an hypothesis, or indeed, a set of hypotheses. This 'conversion' process, however, remains outside the scope of the present study.

Let us now examine the propositions as they emerge from the analysis of the five major problem areas which have been identified. They are as follows:

Propositions Respecting the Nature of the Musical Symbol

Proposition 1:

> The choice of an eclectic musical repertoire in a pedagogical process, when accompanied by selections of the highest quality from each musical category, yields significantly higher quality in student learning (indicated by measures of appreciation and musicianship) than that accompanying a specialization within a narrow range of music.

This proposition addresses the first of the questions raised with respect to the musical symbol, namely, what is to be regarded as "suitable" music for the repertoire in music education. It does not necessitate every teacher in every single subject in music incorporating selections from the entire range of music available for study. However, during the course of an individual's musical education, he/she should be exposed to a wide range of music of varying type and cultural orientation. This implies the vertical integration of courses of study in the field of music education. The vastness of the field of music within the Western European tradition, let alone an expansion to the study of music beyond that, obviates the necessity for a number of specialists in differing fields. Obviously, this expectation cannot be fully met within the framework of a single course unless there has been this continuing integration.

The reader will note that respecting the issue of a distinction between 'art' music and 'non-art' music, the analysis concludes that there is no valid distinction between so-called 'art' music and

'non-art' music (assumptions 3.304; 3.105).

Proposition 2:

> Music education having as its goal the development of aesthetic responsiveness yields significantly higher gains than that having as its goal either cognitive or affective goals alone or primarily.

This proposition addresses the second of the questions raised with respect to the musical symbol, namely, the question of the 'aesthetic experience' and the corollary notion that music education is best conceived of as aesthetic education. A number of concepts are implied within the proposition as follows:

a. Aesthetic and affective musical experiences may be logically distinguished (assumptions 3.202; 3.305; 3.402).

b. Music exhibits quality gradations which are subjectively and relatively ascertained (assumptions 3.306; 3.308; 3.204).

c. The aesthetic experience is a variable one (assumptions 3.203; 3.207; 3.104; 3.105).

d. The point in time and space in which the musical event occurs must affect all aspects of its nature (assumptions 3.116; 4.201; 4.105; 3.303).

e. The degree of 'aesthetic' success which is achieved in the musical symbol will vary as a function of the composer's technique and the degree to which his audience understands what he has done (assumptions 3.103; 3.106; 3.107; 1.108).

It is obvious that aesthetic education cannot be equated with affective education as some writers have suggested. The involvement of cognitive and affective responses to music is variable. Further, the

degree of understanding by the listener of what the composer is attempting to do and the method by which he/she is going about it affects the aesthetic judgement. Obviously, then, the aim of music education is to provide the student with this understanding, i.e. both "experiential knowledge" and "knowledge about" music. Further, the student should be brought to realize that the significance of the musical event and its nature is affected by the position in time and space. Music must then be seen in the cultural context of which it is a part (assumptions 3.116; 3.117; 3.118).

It has been assumed in the foregoing analysis that the aesthetic experience is logically distinguishable from both the cognitive and affective responses and that if the focus of music education is the development of aesthetic responsiveness, the analysis commits us to the expectation that as such, it will yield significantly higher gains than if the focus were upon cognitive or affective goals.

Proposition 3:

> The more the concentration of curriculum around the structural elements of music and the greater the structuring of the curriculum itself, the greater the resultant student musicianship, appreciation and creativity.

This proposition addresses the third and fourth question sets raised with respect to the musical symbol. First, is there a common structure to music? Second, should musical pedagogy be concerned with musical structure? A number of concepts are implied within the proposition as follows:

a. All music is reducible to five common elements, i.e., pitch, rhythm, dynamics, form and timbre (assumptions 3.103; 3.301; 3.309).

b. Measures hypothetically may be devised as indicators of the quality and quantity of various parameters of the musical event, i.e., appreciation, musicianship (assumptions 3.401 through 3.409).

c. The creative process is contingent upon the development of musical skills at some minimal level (assumptions 5.211; 5.213).

The foregoing analysis commits us to a highly structured curriculum, where concepts are logically developed in order of increasing complexity. Thus musical pedagogy is intimately concerned with musical structure as well as curriculum structure. This approach does not necessarily commit us to a spiral curriculum structure as advanced in the M.M.C.P. Synthesis (Thomas, 1970). Indeed, the development of the five elements of music may be uneven. It does, however, commit us to a careful vertical integration of the curriculum, and to some extent, to a horizontal integration. For example, a student leaving Grade seven in one school in a given system should be able to continue in Grade eight in another school in the system at a comparable level. This assumes, then, that teachers working at a given grade level in the system are covering comparable material.

Further, the analysis commits us to the derivation of alternative evaluative measures which indicate the quality of student performance. Two such suggested measures are musicianship and appreciation. These require further elaboration and specification, but these details are beyond the scope of the present study.

It should be noted that this proposition appears to fly in the face of extant formulations, e.g., David Hunt (Joyce and Weil, 1972), which hypothesize an inverse relationship between conceptual level and extent of structuring.

Proposition 4:

> The only creative experience valid in music education is that which also fosters an aesthetic responsiveness to music.

In the wake of a resurgence of interest in 'creativity' and the resultant questions currently being asked as to what is a valid creative experience, and the standards by which creativity may be evaluated (constituting the fifth question set raised in regard to the musical symbol), the present proposition commits us to stringent criteria respecting creative experiences. Once again, a number of concepts are implied within the propostion as follows:

a. Creative thinking varies quantitatively from non-creative thinking (assumptions 5.213; 5.214; 5.218).

b. The Vaughan model of levels of creativity may be superimposed on the Piagetian sequence of developmental stages of cognitive functioning (assumptions 5.211; 5.216).

c. The judgement with respect to creativity is relative to considerations of space and time (assumptions 5.212; 3.117; 5.104).

d. The focus of music education is the development of the aesthetic responsiveness (assumptions 3.201; 5.101).

In accepting the foregoing proposition, we are committed to a relative position with respect to creativity, in that what has been created is evaluated with regard to the operant rules respecting musical events extant at a given time and place. And since we are committed to the view that the focus of music education is properly the development of aesthetic responsiveness, we are only concerned with creative experiences as they foster aesthetic experiences.

Propositions Respecting Socio-Cultural Issues

Proposition 5:

> Music education is significantly more efficient in a homogeneous socio-musical society than in an eclectic socio-musical society.

This proposition addresses the question of 'ethnicity' in music and the competition of various socio-musical sub-cultures and groups within a given society. As such, it implies, as usual, a number of concepts as follows:

a. A 'sphere of validity' exists about a work of art when similar cognitive responses or meanings are evoked through a shared symbolism communicated by a work of art. Socio-musical groups develop around and in association with spheres of validity and are co-extensive with them (assumptions 4.101; 4.102; 4.103; 4.104).

b. The formation of spheres of validity arises from the operation of one or more 'developers' or processes (assumption 4.202).

c. These several socio-cultural processes and their resultant spheres of validity may be in conflict (assumption 4.106).

In the case of the simultaneous co-existence of a number of spheres of validity in a given society or the operation of a number of developers or processes by which these spheres of validity are formed, music education may come under the purview of one developer or within the context of a given sphere of validity. There may well be several other developers in conflict with that one (or more) under whose auspices music education is chiefly carried forward. In this case part of the music educator's task is to counteract the influence of other developers. This reduces the efficiency of the music education process.

In a homogeneous socio-musical culture, the various developers operate in comparative unison. All share the same sphere of validity, thus music education carried forward within the purview of one (or more) developers will be reinforced by the operation of the others.

Further, in a homogeneous socio-musical culture, the music educator's role is to socialize students within the purview of one major form of musical expression. In an eclectic socio-musical culture his/her task becomes more complex, as the attempt is made to balance a variety of forms of musical expression and to evaluate the relative merits of each.

Proposition 6:

> Effective communication in the pedagogical process takes place only at the point at which the 'spheres of validity' to which teacher and student subscribe are contiguous, i.e., either they are at unity or they overlap at that point.

This proposition addresses the problem of 'pop' music and the difficulties currently encountered by some music educators in North America in communicating traditional musical values to young people. This proposition correspondingly implies a number of concepts as follows:

a. Where a given teacher operates outside a given student's sphere of validity difficulties in communication arise (assumption 4.107).
b. Musical taste varies over time and space and appears to follow certain sociological laws, i.e., it can be to some extent controlled and at least influenced (assumption 4.108).
c. Snobbism is exhibited by individuals in one socio-musical group who refuse to acknowledge any other (assumption 4.109).

This proposition does not imply that the student is left in his/her own sphere of validity. Rather the music educator must accept the fact that musical taste is a relative and changeable phenomenon which follows certain basic sociological laws. He is basically cast in the role of a socializer and he can effect changes in the musical taste of his students. Part of the art of teaching, in this case, is to develop appropriate strategies which enable a change or a development in the student's musical taste without disrupting the communication between teacher and student.

Proposition 7:

> Music education is optimized where the 'idealistic' phase is maintained.

This proposition addresses the problem of the effect of socio-cultural cyclical swings upon music education. Included in this proposition is the concept of different problems faced in the 'sensate' and 'ideational' phases of the cultural swing. Education as a means of socialization must be responsive in some measure to these swings. However in Proposition 17 following, we will note the need for consistent administrative policy over a wide social-actual space and through an extended period of time. This cannot be possible if there is a constant vacillation between 'ideational' and 'sensate' phases. Sorokin postulated that the optimum point on the cyclical swing was the 'idealistic' phase midway between the 'sensate' and 'ideational' polarities. This is the "golden mean" and it is this point which is postulated as the optimum for music education.

Propositions Respecting the Pedagogical Process in Music

Proposition 8:

> The influence of social and actual time and space is both to significantly widen in certain respects the potential options presently available within musical pedagogy and at the same time to narrow them significantly in certain other respects.

This proposition addresses the entire range of question sets raised with respect to the pedagogical process and its nature. A number of concepts are once again implied within the proposition as follows:

a. Music is a function of and yet in turn feeds culture and thereby exhibits cyclical swings (assumptions 3.116; 3.117; 3.118).

b. The pedagogical process is the process of 'mythologization' determined by the norms of the 'developers' which may vary in time and space (assumptions 5.101; 5.102; 5.103; 5.104).

It is apparent from the foregoing analysis that at the ideational phase, there is widespread consensus respecting reality, whereas at the sensate phase there is little consensus and widespread disagreement respecting reality. Since music education is a process of socialization, this variation in consensus will be reflected in the variety of options open. If we conclude that presently we are in the sensate phase, then obviously the number of options open is significantly wider than if we had been in the ideational phase. Yet it is also apparent that given such constraints as limited finance, local philosophy and politics, among others, the number of options we may implement is reduced significantly. The socio-cultural constraints which are operative also act to alter the effectiveness of the options once they are implemented at a given time and place.

The situation is further complicated by the fact that both music itself as well as the pedagogical process are responsive to the influence of social and actual time and space. Let us cite an example. The analysis implicates us in a consideration of possible alternate locales in which music education might be effectively carried on. Is the school music program as presently construed in Canada necessarily the most efficient method of group music instruction? Could it be that if the European model were followed (Brown, 1974) and a system of music schools separate but parallel to the public school established, the music education process would be more efficient? Once one considers the possible alternate models by which this alternative may be construed in practise, it is apparent that the number of options increases significantly. However, a consideration of the vested interests in the present system, the costs of setting up the alternative system, and the various political realities to be encountered at any given point in cultural history, at the same time narrow these options significantly.

Proposition 9:

> Learning is optimized where the reciprocal empathetic relationship between teacher and student is maximized.

This proposition addresses two questions raised in connection with musical pedagogy, namely, "What is the essence of the pedagogical process itself?" and "Under what conditions should learning be carried forward?" The suggested answers will have repercussions, then, for the music education system itself. A number of concepts are once again implied within this proposition as follows:

a. The emotional reaction specific to the learning process affects the efficiency of the learning process (assumptions 5.223; 5.224).

b. Empathetic relationships between empirical types of teachers and students lie on a continuum from two ideal-type polar points of 'reciprocal empathy' and 'reciprocal antipathy' respectively (assumptions 5.301; 5.302; 5.303; 5.304; 5.313).

c. There is a possibility of ambivalence between several empirical types over a relatively short time span, in different space, or in differences in the expression of a given type (assumptions 5.306; 5.307; 5.308; 5.309; 5.311).

The analysis commits us to the systematic matching of teachers and students by types according to the demonstrated efficacy of each 'mix' in the promotion of student learning. In order to accomplish this we may have to entertain options alternative to the present system of music education presently carried forward in Canada. The model proposed by Brown (1974) constitutes one such approach by which this matching of teacher and student types might be facilitated. It constitutes a separate and parallel system of music schools, utilizing the facilities of public schools, conservatories and other designated separate buildings. Such a system would also utilize the private music teacher (who would have to be registered in order to practise the profession). Brown notes additional financial, timetabling and teacher supply advantages which might ensue from his scheme. These points are the catalysts since they are the non-music factors causing major problems in our school music programs in Canada.

Thus in approaching an answer to the question of the conditions under which learning should be carried on, a part of the answer lies in

the consideration of a number of possible alternate locales, and indeed, a possible number of alternate systems of music education, whereby the maximization of the teacher-student reciprocal empathetic relationship is facilitated.

This proposition commits us also to the admission that the fundamental activity in the pedagogical process is not the formulation of method or process, or a primary concern with environment, but rather with the effective interaction between the teacher and the student.

Proposition 10:

> Music education exhibiting a synthesis of elements of 'elitist' and 'democratic' educational philosophies (where every person who desires musical education and who demonstrates a minimal acceptable level of musical ability should have the opportunity to have it) is significantly more effective than music education exhibiting either extreme 'elitist' or 'democratic' philosophies.

This proposition addresses the question of <u>to whom</u> music will be taught.

The foregoing analysis commits us to the recognition of differing musical aptitudes and motivation levels. Although educational philosophies are not "spelled out" in detail in the analysis, it is assumed that there is a general acceptance of the notion that some educational systems have historically represented an elitist philosophical bias while others have historically represented a democratic bias. On the one hand, in the elitist philosophy the possibility of the exclusion of some students who are musically talented on account of lack of opportunity is a real one. On the other hand, in the democratic philosophy, the wastage of teaching effort on those who

possess little aptitude and motivation and the uneconomic use of resources thus expended is an equally real possibility.

This analysis opts for a middle-of-the-road position. It has been assumed that all teacher-student empirical type mixes are not equally efficacious in the facilitation of student learning and that there should be a matching of teacher and student types. This implicitly assumes some combination of elitist and democratic philosophy. On the one hand, it is assumed that not all teacher-student types are equally valued in society (assumptions 5.310; 5.311). It is obvious that those most valued by society will be rewarded more than those not so valued (indicative of an elitist bias). Yet, on the other hand, a range of differentially valued types is tolerated in the system (indicative of a democratic bias).

Proposition 11:

> The higher the level of musical skills the greater the effectiveness of "integrated arts projects". Legitimate integration of the arts cannot be carried forward until the student has achieved a minimum level of 'literacy' in each of the arts involved.

This proposition addresses the question of <u>how</u> music should be taught. It follows in the wake of a tremendous interest in and enthusiasm for "integrative arts projects". The foregoing analysis commits us to the position that cognitive structure must be established as a precondition for creative thinking (assumptions 5.213; 5.214; 5.218). The student must first understand the boundaries of music and indeed, of each of the other arts to be integrated as well as the composite structural elements before he/she is in a position to integrate anything. For a legitimate integration of the arts to take

place, the student must have a well established cognitive structure not only with respect to music but with the other arts also.

The implication of this proposition, then, is that there will be a specialization in music itself first, leading to an integrated arts program later, rather than vice versa.

Proposition 12:

> Teacher effectiveness is maximized when quality, quantity and diffusion of 'reciprocal empathy' is optimized with respect to the expectations of the referrent system.

This proposition addresses the question of the evaluation of teacher effectiveness in music education. A number of concepts are implied in the proposition as follows:

a. Empathy varies in quality, quantity and diffusion (assumptions 5.313; 5.314; 5.316; 5.317).

b. The values attached to 'empirical types' of teachers and students are determined with reference to socio-cultural considerations and may vary over time and space (assumptions 5.309; 5.310).

It is obvious that society will have certain expectations concerning the quality, quantity and diffusion of 'reciprocal empathy' which will vary through time and space, as will the degree of consensus concerning the expectations at any given time. For example, in the sensate phase there will be little consensus in the expectations of the referrent system. It follows, then, that the evaluation of teacher effectiveness will be more efficient in the ideational rather than the sensate phase. It also follows that the acceptable range of teacher types in the referrent system will be greater in the sensate phase than in the ideational phase. The analysis stresses the variability of

measures of teacher effectiveness.

Proposition 13:

> The environment in which musical learning takes place has a significant impact upon the efficiency of that learning.

This proposition addresses the question of the conditions under which the learning of music should take place. A number of concepts are implied in the proposition as follows:

a. The ability to appreciate music at any given time is in part a function of the environment in which the music is being listened to (assumption 3.404).

b. The nervous system exhibits physiological and anatomical plasticity and under conditions of enrichment in the environment, there is a greater development and use of neuronal processes than in the case of deprivation of the environment, where disuse of neuronal processes leads to atrophy and degeneration. Further, in deprived environments there is not the growth of neuronal processes that there is in enriched environments (assumptions 5.219; 5.220).

This proposition is generally well established. It implies a number of characteristics which will be exhibited in the environments in which music is taught, including a well designed and equipped music room, first-hand experiences of music performances, e.g., live concerts and first-rate musical instruments and sound equipment among others. The financial constraints which are operative in education generally, constitute an additional argument for the concentration of music teaching environments and equipment in music schools instead of duplicating these environments at will without obtaining full use of

them.

Proposition 14:

> The available physiological evidence suggests that the 'Associationist' learning theories constitute the most valid extant learning theories.

This proposition addresses the question of how students learn. The Associationist school of learning theory is well-known, and while individual explanations by the individual theorists vary with respect to a variety of phenomena to be explained, yet the various theories are held together by a common interest in the necessity for the association of new ideas with previously well established ones in the learning process. A number of concepts appear consistent with the physiological evidence respecting memory and learning as follows:

a. Pribram hypothesizes holographic storage as a basis for memory (assumption 5.228). This hypothesis holds that memory storage is facilitated by neural circuits and that as one or more circuits are triggered, so this causes the firing of other associated circuits leading to the recall of other associated events.

b. There is the notion of teaching by illustration. In the establishment of the new concept, illustration gives the student an intuitive understanding of the concept by virtue of his seeing the relationship between the new concept and the previously established concepts.

c. The new concept to be taught must be clearly delineated from the previously established concepts.

d. It is essential to build a structure of concepts from the simplest to the most complex.

e. Time and reinforcement are necessary in order to establish the chemical synthesis in the relevant parts of the brain essential to long-term memory (assumption 5.225).

Proposition 15:

Music education is maximized at the point where the program optimizes the level of physiological capabilities.

This proposition addresses the problem of what learning activities are appropriate at what levels in the music education process. Here too a number of concepts are implied in this proposition as follows:

a. There is a development of musical ability with increasing age within the constraints set by inate ability and maturation (assumptions 5.201; 5.202).

b. This development is differential at any given age, between sexes, or among members of the same sex (assumptions 5.203; 5.204).

c. There is a qualitative and quantitative change in cognitive functioning with increasing age (assumptions 5.205; 5.206; 5.207; 5.208; 5.209; 5.210).

d. Physiological and anatomical changes accompany the development of cognitive functioning (assumptions 5.219; 5.220; 5.221).

This differential development of physiological capabilities implies a flexible program allowing each student to progress at his/her own rate. The objective of the music education process is to utilize an appropriate approach so as to match the student's level of physiological capabilities.

Proposition 16:

> The greater the degree to which the 'directive process' is enlisted in the learning process, the more efficient that learning process.

This proposition addresses the method by which music education is most appropriately carried forward. Implicit in the proposition is the assumption that the 'directive process' must be developed with reference to moral values and expectations common to the referrent group. For it is this which provides direction for cognitive activity within the physical constraints, i.e., the level of operation of the 'reticular activating system' and the 'limbic system', and the extent of training of the 'directive process' (see assumptions 5.229; 5.230; 5.231).

Proposition 17:

> Music education when conducted in the context of an administrative system revealing a consistent policy over a wide social-actual space and through an extended period of time is more efficient than music education conducted in the absence of such a consistent policy over a wide social-actual space and through an extended period of time.

This proposition addresses the question of appropriate policy for the administration and supervision of music education. The reader will note that Propositions 1 and 3 above, commit us to a vertical and horizontal integration of music curricula necessitating a consistent administrative policy. Further, the Hungarian example of music education illustrates historically the results to be gained through a consistent policy over a wide space and extended time.

Proposition 18:

> Growth in student learning under a program of musical education stressing creativity will be significantly greater than that stressing reception learning.

This proposition addresses the question of the appropriate goals and methodology of musical pedagogy. A number of concepts are once again implied within the proposition as follows:

a. Creative thinking varies quantitatively from non-creative thinking. The cognitive structure must be established as a precondition for creative thinking (assumptions 5.213; 5.214; 5.218).

b. The Vaughan model of levels of creativity may be superimposed on the Piagetian sequence of developmental stages of cognitive functioning (assumptions 5.210; 5.211; 5.216).

c. The judgement with respect to creativity is a relative one in space and time (assumptions 5.212; 3.117; 5.104).

d. Creativity is the life of mind at its highest order of functioning (assumption 5.214).

This proposition implies that the requirements for the operation of the mind under reception learning are not as rigorous as those obtaining when creativity is stressed. This proposition does not necessitate the position that reception learning is not utilized at all where a program stressing creativity is operative. Rather reception learning may indeed be most efficient in establishing the pre-creative stage. What this proposition commits us to is that reception learning does not go far enough. Once the pre-creative stage is established (Stage 1 of the Vaughan model), there is a necessity to progress to the creative stage (Stage 4 of the Vaughan model) which makes great demands

on the student mentally and emotionally.

Propositions Respecting Musical Research

Proposition 19:

> A research methodology constituting a synthesis of elements of phenomenology and positivism will yield both more valid and reliable data and interpretation of that data than that available from extant methodologies which are solely positivistic or phenomenological.

This proposition addresses the problem of an appropriate methodology for research in music education. An acceptance of this proposition commits us to certain expectations concerning the characteristics of an appropriate methodology as follows:

a. The utilization of longitudinal studies or studies involving a long time line. (This involves the employment of the historical method.)

b. Careful empiricism with respect to the collection and analysis of data arising from both intuitive and logico-experimental or formal observational procedures. This will necessitate the development and refinement of methodologies which enable both intuitive or phenomenological modes of observation and analysis. This might involve the refinement and application of participant observation methods, among others.

c. Precision in the definition of variables under consideration.

d. Attention to data over the entire range of integrative levels analysis from the physiological to the historical.

e. Scrupulous attention to the clarity of the research methodology and attendant procedures, both quantitative and qualitative.

f. The conducting of base-line studies before pragmatic studies.

g. A rigorous evaluation of innovative projects.

h. A balance between empirical and theoretical studies.

In no way does the incorporation of 'intuitive' and 'logical' procedures reduce the necessity for rigor of analysis. The observer under the contemplated 'phenomenological' methodology remains as much an empiricist as under the 'positivistic' methodology. It is also evident that the focus of the methodology must be free to vary, depending upon the problem under investigation. Some problems lend themselves to more of a 'positivistic' bias, e.g., studies of the physiology of musical experience, whereas other problems lend themselves more to a 'phenomenological' bias, e.g., studies of macro- or social problems in music education. The issue in question should be the criterion in terms of which methodological issues are resolved, rather than the reciprocal.

Propositions Respecting the Lack of a Theoretical Base

Proposition 20:

> The combination of relationships between the three 'cells' described in the foregoing analysis, i.e., Structural, Socio-Cultural and Pedagogical, provides a conceptual framework which hopefully will serve as a first step toward a theory.

This proposition addresses the question of a lack of a theoretical base in music education. The analysis as constituted elaborates in some detail ten assumptive sets. A complete synthesis of the elements described in the foregoing analysis is ideally required. That task, however, remains out of the scope of the present study. Nevertheless, for illustrative purposes, we may diagrammatically

represent the possible relationships in a projected hypothetical paradigm in Figure 14. The arrows in this figure represent the interrelationships which will be existent at given time (t). These interrelationships require a complete synthesis before a theory may be approached. It is apparent that this study has focussed upon the interrelationships within each of the three 'cells' and that only some of the possible totality of relationships have been analyzed. Further, we have examined only three cells of a possible (n) number of composite elements of a comprehensive theory of music education.

Implications for Further Research

The purpose of Figure 14 is an illustrative one: to focus attention on possible areas for further research and the explication of relationships. Especially needed is research on the interrelationships between the cells, i.e., relationships (A-B). (A-C), (B-C). This includes not only each of the three cells as a totality, but all the interrelationships between the various elements of each of the cells. In particular, there is need for research into teacher-student empathetic relationships, into the operation of group processes within the 'spheres of validity' and the 'developers', and into a suitable means of gauging 'appreciation' and 'musicianship', among others.

Further, the writer has argued that several aspects of music education have been insufficiently attended to in the past, e.g., the examination of socio-cultural issues and the role of the nature of socio-cultural and/or virtual time and space in both the nature of the musical symbol and the pedagogical process itself. These, too, are among the research issues which demand high priority. In respect of these and

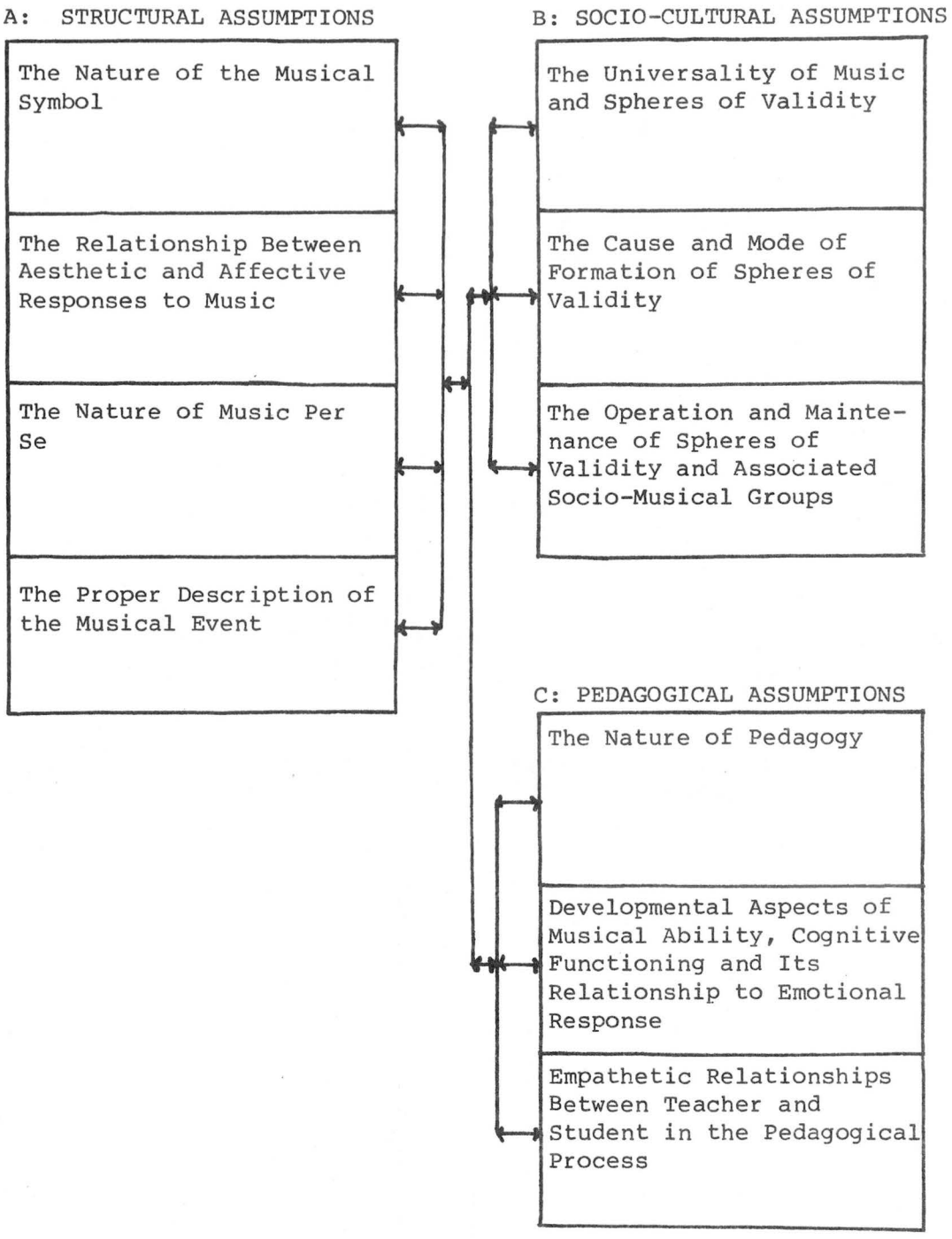

Figure 14

A Projected Hypothetical Paradigm of Selected Aspects of Music Education

many others, the present study constitutes nothing more than a first step in the development of a badly-needed comprehensive theory of music education.

BIBLIOGRAPHY

BIBLIOGRAPHY

Ádám, G. Conditioned evoked potential: an electrical sign of memory. Macromolecules and Behaviour, eds. G. B. Ansell and P. B. Bradley. London: Macmillan, 1973, 205-215.

Agranoff, B. W. Biochemical approaches to learning and memory. Macromolecules and Behaviour, eds. G. B. Ansell and P. B. Bradley. London: Macmillan, 1973, 143-149.

Albersheim, G. Ludis tonalis and the future of music education. Journal of Aesthetic Education, 1970, 4, 117-127.

Amidon, Edmund J. and Ned Flanders. Interaction analysis as a feedback system. Interaction Analysis: Theory, Research and Application, eds. E. J. Amidon and J. B. Hough. Reading, Mass.: Addison-Wesley, 1967, 121-140.

Ansell, G. B. and P. B. Bradley. eds. Macromolecules and Behaviour. London: Macmillan, 1973.

Applebaum, E. A practise of narrowing options: how the theory-based curriculum destroys creativity. Music Educators Journal, 1972, 58, 40-45.

Apel, Willi. ed. Harvard Dictionary of Music. Revised Edition. Cambridge, Mass.: Belknap, 1969.

Atkinson, Richard C., George H. Bower and Edward J. Crothers. An Introduction to Mathematical Learning Theory. New York: Wiley, 1965).

Ausubel, David P. Educational Psychology: A Cognitive View. New York: Holt, Rinehart and Winston, 1968.

Baker, H. V. Children's contributions in elementary school general discussions. Child Development Monograph, 1942, 29.

Bakke, E. Wright. The concept of the social organization. Modern Organization Theory, ed. Mason Havre. New York: Wiley, 1967, 16-75.

Barondes, S. H. Multiple steps in the biology of memory. The Neurosciences Second Study Program, ed. F. O. Schmitt. New York: Rockefeller University Press, 1970.

Bartky, John A. Supervision as Human Relations. Boston: D. C. Heath, 1953.

Bendix, Reinhard and Bennett Berger. Images of society and problems of concept formation in sociology. Symposium on Sociological Theory, ed. Llewellyn Gross. Evanston, Ill.: Row, Peterson, 1959.

Bentley, A. Musical Ability in Children and Its Measurement. London: Harrop, 1966.

Berger, Peter L. and Thomas Luckman. The Social Construction of Reality. New York: Doubleday, 1966.

Berry, M., T. Hollingworth, R. Flinn and E. M. Anderson. Morphological correlates of functional activity in the nervous system. Macromolecules and Behaviour, eds. G. B. Ansell and P. B. Bradley. London: Macmillan, 1973, 217-240.

Birge, Edward Bailey. History of Public School Music in the United States. New Edition. Washington, D.C.: Music Educators National Conference, 1966.

Bliss, T. V. P., A. R. Gardner-Medwin and T. Lømo. Synaptic plasticity in the hippocampal formation. Macromolecules and Behaviour, eds. G. B. Ansell and P. B. Bradley. London: Macmillan, 1973, 193-203.

Blumer, Herbert. Symbolic Interactionalism: Perspective and Method.

Boeckman, Charles. Cool, Hot and Blue: A History of Jazz for Young People. New York: Washington Square Press, 1970.

Bolton, Charles D. Behaviour, experience and relationships: a symbolic interactionist point of view. American Journal of Sociology, 1959, 64, 45-57.

Booker, George A. The disc jockey and his impact upon teenage musical taste in three north Florida cities. Unpublished doctoral dissertation, Florida State Univerity, 1968.

Bridger, W. H. Sensory habituation and discrimination in the human neonate. American Journal of Psychiatry, 1961, 117, 991-996.

Broudy, Harry S. Two exemplars of teaching method. Theories of Instruction, eds. James B. Macdonald and Robert R. Leeper. Washington, D.C.: Association for Supervision and Curriculum Development, 1965, 8-17.

Brown, A. Malcolm. Let's try a different approach to instrumental music education. Canadian Music Educator, 1974, 15, 1-10.

Bruner, J. S. The course of cognitive growth. American Psychologist, 19, 1-15.

Bullock, William J. Construction and evaluation of a test of musico-aesthetic attitude. Unpublished doctoral dissertation, Florida State University, 1971.

Case, D. and J. M. Collinson. The development of formal thinking in verbal comprehension. British Journal of Educational Psychology, 1962, 32, 103-111.

Childs, Arthur. Five conceptions of history. Mimeographed notes of a lecture delivered at Sacramento State College, March 13, 1957, before the Central California Philosophical Association.

Clark, Kenneth. Civilization: A Personal View. Reprinted Edition. London: British Broadcasting Corporation and John Murray, 1971.

Coker, Wilson. Music and Meaning: A Theoretical Introduction to Musical Aesthetics. New York: Free Press, 1972.

Colwell, Richard. The Evaluation of Music Teaching and Learning. Englewood Cliffs, New Jersey: Prentice-Hall, 1970.

Cooke, Deryck. The Language of Music. London: Oxford University Press, 1959.

Coser, Lewis A. Presidential address: two methods in search of substance. American Sociological Review, 1975, 40, 691-698.

Denny, David A. Identification of teacher-classroom variables facilitating pupil creative growth. American Educational Research Journal, 1968, 5, 80-86.

Deutsche, J. M. The Development of Children's Concepts of Causal Relationship. Minneapolis: University of Minnesota Press, 1937

Drake, R. M. Four new tests of musical talent. Journal of Applied Psychology, 1933, 17, 136-147.

Drake, R. M. The validity and reliability of tests of musical talent. Journal of Applied Psychology, 1933a, 17, 447-458.

Drake, R. M. Manual for the Drake Aptitude Tests. Chicago: Science Research Associates, 1957.

Drinkwater, H. Inheritance of artistic and musical ability. Journal of Genetics, 1916, 5, 229-241.

Drumheller, Sidney J. Evaluating teachers through a jaundiced eye. Educational Technology, 1974, 23, 17-21.

Duncan, Carl P. Thinking: Current Experimental Studies. Philadelphia: Lippincott, 1967.

Dunwell, Wilfrid. Music and the European Mind. London: Jenkins, 1962.

Effrat, Andrew. Power to the paradigms. Sociological Inquiry, 1972, 42, 6 - 12.

Eisner, E. W. Children's creativity in art: a study of types. American Educational Research Journal, 1965, 2, 125-136.

Elkind, D. The development of quantitative thinking: a systematic replication of Piaget's studies. Journal of Genetic Psychology, 1961, 98, 37-48.

Emery, F. E. and E. L. Trist. The causal texture of organizational environments. Human Relations, 1965, 18, 21-32.

Epperson, Gordon, The Musical Symbol: A Study of the Philosophic Theory of Music. Ames: Iowa State University Press, 1967.

Etzioni, A. Modern Organizations, Englewood Cliffs, New Jersey: Prentice-Hall, 1964.

Etzkorn, K. Peter. On esthetic standards and reference groups of popular song writers. Sociological Inquiry, 1966, 36, 39-47.

Etzkorn, K. Peter. On the sphere of social validity in African art: sociological reflections on ethnographic data. The Traditional Artist in African Societies, ed. Warren L. d'Azevedo. Bloomington: Indiana University Press, 1973, 343-378.

Etzkorn, K. Peter. ed. Music and Society: The Later Writings of Paul Honigsheim. New York: Wiley, 1973a.

Farnsworth, Paul Randolph. Musical Taste, Its Measurement and Cultural Nature. Stanford, California: Stanford University Press, 1950.

Farnsworth, Paul Randolph. The Social Psychology of Music. New York: Dryden Press, 1958.

Filstead, William J. ed. Qualitative Methodology; First Hand Involvement with the Social World. Chicago: Markham, 1970.

Fischer, David H. Historians' Fallacies: Toward a Logic of Historical Thought. New York: Harper and Row, 1970.

Foff, A. Scholars and scapegoats. The English Journal, 1958, 47, 118-126.

Franklin, E. Tonality as a Basis for the Study of Musical Talent. Gotenberg: Gumperts Forlag, 1956.

Garong, William F. Review of Medical Physiology. Fourth Edition. Los Altos, California: Lange Medical Publications, 1969.

Gelineau, Joseph. Voices and Instruments in Christian Worship: Principles, Laws, Applications. Collegeville, Minnesota: The Liturgical Press, 1964.

Gerard, R. W. and J. W. Duyff. eds. Information Processing in the Nervous System. Volume III. Proceedings of the International Union of Physiological Sciences XXII International Congress, Leiden, 1962. Amsterdam: Excerpta Medica Foundation, 1964.

Gesell, A. and F. Ilg. The Infant and Child in the Culture of Today. London: Hamilton, 1943.

Gesell, A. and F. Ilg. The Child from Five to Ten. London: Hamilton, 1946.

Getzels, J. W. and J. T. Gillon. The nature of giftedness and the education of the gifted. Second Handbook of Research on Teaching, ed. Robert M. W. Travers. Chicago: Rand, McNally, 1973, 689-731.

Gibson, J. J. Social psychology and the psychology of perpetual learning. Group Relations at the Crossroads, eds. M. Sherif and M. O. Wilson. New York: Harper and Row, 1953, 120-138.

Glassman, E. and J. E. Wilson. RNA and brain function. Macromolecules and Behaviour, eds. G. B. Ansell and P. B. Bradley. London: Macmillan, 1973, 81-92.

Globus, A. and A. B. Schiebel. The effect of visual deprivation on cortical neurons: a golgi study. Experimental Neurology, 1967, 19, 331-345.

Goffman, Erving. The Presentation of Self in Everyday Life. New York: Doubleday, 1959.

Goldman, A.E. and M. Levine. A developmental study of object sorting. Child Development, 1963, 34, 649-666.

Goldman, R. J. The application of Piaget's schema of operational thinking to religious story data by means of the Guttman scalogram. British Journal of Educational Psychology, 1965, 35, 158-170.

Gollin, E. S. Organizational characteristics of social judgement: a developmental investigation. Journal of Personality, 1958, 26, 139-154.

Goodnow, Jacqueline J. and Gloria Bethon. Piaget's tasks: the effects of schooling and intelligence. Child Development, 1966, 37, 574-582.

Goslin, David A. The School in Contemporary Society. Glenview, Ill.: Scott, Foresman, 1965.

Greenfield, Patricia M. On culture and conservation. Studies in Cognitive Growth, ed. J. S. Bruner. New York: Wiley, 1966, 225-256.

Haller, M. W. The reactions to changes in the intensity and pitch of pure tones. Journal of Genetic Psychology, 1932, 40, 162-180.

Halpin, Andrew. Theory and Research in Administration. New York: Macmillan, 1966.

Hanshumaker, J. On Reimer's philosophy of music education. Journal of Aesthetic Education, 1973, 7, 90-100.

Heap, James L. and Philip A. Roth. On phenomenological sociology. American Sociological Review, 1973, 38, 354-367.

Hebb, D. O. The Organization of Behaviour. New York: Wiley, 1949.

Hevner, K. The aesthetic experience: a psychological description. Psychological Review, 1937, 44, 245-263.

Hewitt, Frank M. and Phillip R. Blake. Teaching the emotionally disturbed. Second Handbook of Research on Teaching, ed. Robert M. W. Travers. Chicago: Rand, McNally, 1973, 657-688.

Hill, D. S. Personification of ideals by urban children. Journal of Social Psychology, 1930, 1, 379-392.

Hitt, W. D. Two models of man. American Psychologist, 1969, 24, 651-659.

Holstrom, L. A. Musicality and Prognosis. Uppsala: Almqvist and Wiksells, 1963.

Hunt, Earl B. Concept Learning; An Information Processing Problem. New York: Wiley, 1962.

Hurst, C. C. Mendelian heredity in man. Eugenics Review, 1912, 4, 20-24.

Hydén, H. Changes in brain protein during learning. Macromolecules and Behaviour, eds. G. B. Ansell and P. B. Bradley. London: Macmillan, 1973, 3-26.

Hydén, H. Nerve cells and their glia: relationships and differences. Macromolecules and Behaviour, eds. G. B. Ansell and P. B. Bradley. London: Macmillan, 1973, 27-50.

Hydén, H. RNA changes in brain cells during changes in behaviour and function. Macromolecules and Behaviour, eds. G. B. Ansell and P. B. Bradley. London: Macmillan, 51-75.

Inhelder, Bärbel and J. Piaget. The Growth of Logical Thinking from Childhood to Adolescence. New York: Basic Books, 1958.

Jackson, S. The growth of logical thinking in normal and sub-normal children. British Journal of Educational Psychology, 1965, 35, 158-170.

Janheinz, John. Muntu: The New African Culture. New York: Grove, 1961.

Johnstone, John and Elihu Katz. Youth and popular music: a study in the sociology of taste. American Journal of Sociology, 1957, 62, 563-568.

Jones, Theresa D. The development of certain motor skills and play activities in young children. Child Development Monographs, 1939, 26.

Jorgensen, E. Technology in the school music program. Fine, Summer, 1974, 24-30.

Joyce, Bruce and Marsha Weil. Models of Teaching. Englewood Cliffs, New Jersey: Prentice-Hall, 1972.

Kahnm S. B. and Joel Weiss. The teaching of affective responses. Second Handbook of Research in Teaching, ed. Robert M. W. Travers. Chicago: Rand, McNally, 1973, 759-804.

Kaplan, Howard B., Neil R. Burch and Samuel W. Bloom. Physiological co-variation and sociometric relationships in small peer groups. Psychobiological Approaches to Social Behaviour, eds. P. Herbert Leiderman and David Shapiro. Stanford, California: Stanford University Press, 1964, 92-109.

Klotman, Robert H. The School Music Administrator and Supervisor; Catalysts for Change in Music Education. Englewood Cliffs, New Jersey, Prentice-Hall, 1973.

Koffka, K. A follow-up study of some aspects of the work of Piaget and Inhelder on the child's conception of space. British Journal of Educational Psychology, 1959, 29, 104-117.

Kowall, Bonnie C. ed. Perspectives in Music Education. Source Book III. Washington, D.C.: Music Educators' National Conference, 1966.

Kuhn, T. S. The Structure of Scientific Revolutions. Second Edition. Chicago: University of Chicago Press, 1970.

Kwalwasser, J. Exploring the Musical Mind. New York: Coleman-Ross, 1955.

Landis, Beth and Polly Carder. The Eclectic Curriculum in American Music Education: Contributions of Dalcroze, Kodaly and Orff. Washington, D.C.: Music Educators' National Conference, 1972.

Langer, Susanne K. Philosophy in a New Key; A Study in the Symbolism of Reason, Rite and Art. New York: Penguin, 1948.

Langer, Susanne K. Feeling and Form; A Theory of Art. New York: Scribner, 1953.

LaPiere, Richard T. and Paul R. Farnsworth. Social Psychology. Third Edition. New York: McGraw-Hill, 1949.

Lehman, Paul R. Tests and Measurements in Music. Englewood Cliffs, New Jersey: Prentice-Hall, 1968.

Leister, Robert D. The Musicians and Petrillo. New York: Bookman, 1953.

Lesure, Francois. Music and Art in Society. University Park: Pennsylvania State University Press, 1968. Translated by Denis and Sheila Stevens.

Loomis, Charles P. and Zona K. Loomis. Modern Social Theories. Second Edition. Princeton, New Jersey: Van Nostrand, 1965.

Lovell, K. The Growth of Basic Mathematical and Scientific Concepts in Children. New York: Philosophical Library, 1961.

Lundin, R. W. An Objective Psychology of Music. New York: Ronald, 1967.

Maccia, Elizabeth Steiner. Instructor as influence toward role-governed behaviour. Theories of Instruction, eds. James B. Macdonald and Robert R. Leeper. Washington, D.C.: Association for Supervision and Curriculum Development, 1965, 88-89.

Macdonald, James B. and Robert R. Leeper. eds. Theories of Instruction. Washington, D.C.: Association for Supervision and Curriculum Development, 1965.

Machlup, F. Homo oeconomicus and his class mates. Phenomenology and Social Reality; Essays in Memory of Alfred Schutz, ed. Maurice Natanson. Hague: Mijhoff, 1970.

MacIver, R. M. Social Causation. Revised Edition. New York: Harper and Row, 1964.

Mackie, Marlene. School teachers: the popular image. Alberta Journal of Educational Research, 1972, 18, 267-276.

MacLean, P. D. Implications of micro-electrode findings on exteroceptive inputs to the limbic cortex. Limbic System Mechanisms and Autonomic Function, ed. C. H. Hockman. Springfield: Thomas, 1972, 115-136.

Mainwaring, J. The assessment of musical ability. British Journal of Educational Psychology, 1947, 17, 284-307.

Martindale, Don. Sociological Theory and Ideal Type. Symposium on Sociological Theory, ed. Llewellyn Gross. Evanston, Ill.: Row, Peterson, 1959, 57-91.

Mason, James A. A conceptual analysis of an evolving theory in music education. Unpublished doctoral dissertation, Arizona State University, 1970.

Medley, D. M. and H. E. Mitzel. Measuring classroom behaviour by systematic observation. Handbook of Research in Teaching, ed. N. L. Gage. Chicago: Rand, McNally, 1963, 247-328.

Meissner, W. W. Hippocampal functions in learning. Journal of Psychiatric Research, 1966, 4, 235-304.

Mellers, Wilfrid. Music and Society: England and the European Tradition. London: Dobson, 1946.

Melly, George. Revolt into Style: The Pop Arts in Britain. London: Cox and Wyman, 1970.

Merton, Robert K. Social Theory and Social Structure. Revised Edition. Glencoe, Ill.: Free Press, 1967.

Meyer, Leonard B. Music, The Arts and Ideas: Patterns and Predictions in Twentieth Century Culture. Chicago: University of Chicago Press, 1967.

Mini, Piero V. Philosophy and Economics. Gainesville, Florida: The University Presses of Florida, 1974.

Moorhead, G. E. and D. Pond. The Music of Young Children: II General Observations. Pillsbury Foundation Studies, 1942.

Mott, Paul. The Organization of Society. Englewood Cliffs, New Jersey: Prentice-Hall, 1965.

Mueller, John H. and Kate Hevner. Trends in Musical Taste. Bloomington Indiana: Indiana University Publications, Humanities Series, No. 8, 1942.

McCarthy, Kevin J. The logic of assumptions. Council for Research in Music Education, 30, 1972.

McKellar, Peter. Imagination and Thinking: A Psychological Analysis. New York: Basic Books, 1957.

McKinney, Howard D. and W. R. Anderson. Music in History: The Evolution of an Art. New York: American Book Co., 1940.

Natanson, Maurice A. Edmund Husserl: Philosopher of Infinite Tasks. Evanston, Ill.: Northwestern University Press, 1963.

Newell, A., J. C. Shaw and H. A. Simon. Elements of a theory of problem solving. Psychological Review, 1958, 65, 151-166.

Ojemann, R. G. Correlation between specific human brain lesions and memory changes. Neurosciences Research in Progress Bulletin, 1966, 4, 1-70.

Osgood, C. E. Method and Theory in Experimental Psychology. New York: Oxford University Press, 1953.

The Oxford Illustrated Dictionary, eds. Coulson, Carr, Hutchinson, and Eagle. Oxford: Clarendon Press, 1962.

Park, Robert E. and E. W. Burgess. Introduction to the Science of Society. Chicago: University of Chicago Press, 1921.

Parsons, Talcott. The Social System. Glencoe, Ill.: Free Press, 1951.

Peterson, Richard A. and David C. Berger. Cycles in symbol production: the case of popular music. American Sociological Review, 1975, 40, 158-173.

Pflederer, M. The responses of children to musical tasks embodying Piaget's principle of conservation. Journal of Research in Music Education, 1964, 12, 251-268.

Piaget, J. Judgment and Reasoning in the Child. New York: Harcourt, Brace and World, 1928.

Piaget, J. The Child's Conception of the World. London: Routledge and Kegan Paul, 1929.

Piaget, J. The Psychology of Intelligence. New York: Harcourt, Brace and World, 1950.

Pike, Alfred. A Phenomenological Analysis of Musical Experience and Other Essays. New York: St. John's University Press, 1970

Poliakov, G. I. Neuron Structure of the Brain. Cambridge, Mass.: Harvard University Press, 1972.

Probst, C. A. A general information test for kindergarten children. Child Development, 1931, 2, 81-95.

Raisman, G. Anatomical evidence for plasticity in the central nervous system in the adult rat. Macromolecules and Behaviour, eds. G. B. Ansell and P. B. Bradley. London: Macmillan, 1973, 183-191.

Reid, L. A. On Reimer's philosophy of music education. Journal of Aesthetic Education, 1973, 7, 10-20.

Reimer, Bennett. A Philosophy of Music Education. Englewood Cliffs, New Jersey: Prentice-Hall, 1970.

Reser, H. Inheritance of musical ability. Student Pedigree Studies. Eugenics News, 1935, 20.

Revesz, A. Introduction to the Psychology of Music. London: Longmans-Green, 1953

Richardson, P. J. S. The Social Dance of the Nineteenth Century. London: Jenkins, 1960.

Robertson, Alec. Music of the Catholic Church. London: Burns and Oates, 1961.

Rose, Steven. The Conscious Brain. New York: Knopf, 1974.

Rosenshine, Barak. Evaluation of classroom instruction. Review of Educational Research, 1970, 40, 279-300.

Rosenshine, Barak and Norma Furst. Use of direct observation to study teaching. Second Handbook of Research on Teaching, ed. Robert M. W. Travers. Chicago: Rand, McNally, 1973, 122-183.

Routley, Erik. The Church and Music. London: Duckworth, 1950.

Rosenzweig, M. Neuronal changes that may store memory. Memory. Montreal: Documenta Geigy, Geigy Pharmaceuticals, 1969, 5-6.

Rusch, Reuben R., A. Denny and Sammie Ives. Fostering creativity in the sixth grade and its effect on achievement. Journal of Experimental Education, 1967, 36, 80-86.

Rust, Frances. Dance in Society. London: Routledge and Kegan Paul, 1969.

Ryans, David G. A model of instruction based on information system concepts. Theories of Instruction, eds. James Macdonald and Robert R. Leeper. Washington, D.C.: Association for Supervision and Curriculum Development, 1965, 36-61.

Sachs, Curt. World History of the Dance. New York: Norton, 1937. Translated by Bessie Schonberg.

Sandor, Frigyes. ed. Musical Education in Hungary. London: Barrie and Rockliff, 1966.

Sarkisov, S. A. The Structure and Function of the Brain. Bloomington, Indiana: Indiana University Press, 1966.

Scheinfeld, A. The New Heredity and You. New York: McGraw-Hill, 1938.

Schonberg, Harold C. The man who set music free. Reader's Digest, 1970, 96, 110-115.

Schwadron, A. A. Structural meaning and music education. Journal of Aesthetic Education, 1969, 3, 109-122.

Schwadron, A. A. Review of Mason's dissertation. Council for Research in Music Education. 1972, 29.

Seashore, C. E. Psychology of Music. McGraw-Hill, 1938.

Sechenov, I. Reflexes of the Brain. Cambridge, Mass.: M.I.T. Press, 1965.

Serl, V. and N. J. Woods. Observations on the physiology of small groups. Unpublished paper, University of Calgary, 1975.

Sheer, Daniel E. ed. Electrical Stimulation of the Brain. Austin, Texas: University of Texas Press, 1961.

Shepherd, Gordon M. The Synaptic Organization of the Brain: An Introduction. New York: Oxford University Press, 1974.

Shuter, Rosamund. The Psychology of Musical Ability. London, Methuen, 1968.

Silbermann, Alphons. The Sociology of Music. London: Routledge and Kegan Paul, 1963. Translated by Corbet Stewart from Wovon Lebt Die Musik. Gustav Busse Verlag, 1957.

Silverman, David. The Theory of Organizations. London: Heinemann, 1970.

Simon, A. and E. G. Boyer. eds. Mirrors for Behaviour: An Anthology of Classroom Observational Instruments. Vols. 1 - 6. Philadelphia: Research for Better Schools, 1967.

Simon, A. and E. G. Boyer. eds. Mirrors for Behaviour: An Anthology of Classroom Observational Instruments. Vols. 7 - 14 and Summary; Supplementary Vols. A and B. Philadelphia: Research for Better Schools, 1970.

Skinner, B. F. Verbal Behaviour. New York: Appleton-Century-Crofts, 1957.

Sorokin, Pitirim. Social and Cultural Dynamics. Volume I. New York: Bedminster, 1937.

Stebbins, Robert A. The jazz community: the sociology of a musical sub-culture. Unpublished doctoral dissertation, University of Minnesota, 1964.

Stevens, Denis. ed. A History of Song. New York: Norton, 1970.

Sunderman, L. F. New Dimensions in Music Education. Metuchen, New Jersey: Scarecrow, 1972.

Taylor, Alastair. Systems approach to the political organization of space. Social Science Information, International Social Science Council, 1975, 14. 7-40.

Thomas, R. B. ed. MMCP Synthesis: A Structure for Music Education. Elnora, New York: Media Inc., 1970.

Thwing, C. F. Education and Religion. Freeport, New York: Books for Libraries Press, 1970.

Tiryakian, Edward A. Existential phenomenology and the sociological tradition. American Sociological Review, 1965, 30, 674-688.

Tiryakian, Edward A. Sociology and existential phenomenology. Phenomenology and the Social Sciences. Vol. I, ed. M. Natanson. Evanston, Ill.: Northwestern University Press, 1973, 187-222.

Tomkins, Calvin. The Bride and the Bachelors. New York: Viking, 1968.

Tribbart, H. Neurophysiology and memory. Montreal: Documenta Geigy, Geigy Pharmaceuticals, 1969.

Ungar, G. Molecular mechanisms in central nervous system coding. Macromolecules and Behaviour, eds. G. B. Ansell and P. B. Bradley. London: Macmillan, 1973, 151-162.

Valenstein, Elliot S. Brain Stimulation and Motivation. Glenview, Ill.: Scott, Foresman, 1973.

Valentine, C. W. The Experimental Psychology of Beauty. London: Methuen, 1962.

Valverde, F. Apical dendritic spines of the visual cortex and light deprivation in the mouse. Experimental Brain Research, 1967, 3, 337-352.

Van Hoesen, G. W., D. N. Pandya and N. Butters. Cortical afferents to the entorhinal cortex of a rhesus monkey. Science, 1972, 175, 1471-1473.

Vaughan, M. M. Music as model and metaphor in the cultivation and measurement of creative behaviour in children. Unpublished doctoral dissertation, University of Georgia, 1971.

Vaughan, M. M. The cultivation and measurement of creative behaviour in children. Unpublished progress report presented to the British Columbia Music Educators' Research Seminar, Victoria, Nov. 1972.

Vaughan, M. M. Cultivating creative behaviour: energy levels and the process of creativity. Music Educators Journal, 1973, 59, 35-37.

Vernon, P. E. Auditory perception: I the gestalt approach. British Journal of Psychology, 1934, 25, 123-139.

Vernon, P. E. Auditory perception: II the evolutionary approach. British Journal of Psychology, 1935, 25, 265-283.

Vernon, P. E. Multivariate approaches to the study of cognitive styles. Multivariate Analysis and Psychological Theory, ed. Joseph R. Royce. London and New York: Academic Press, 1973.

Walton, Ortiz. Music: Black, White and Blue. New York: Morrow, 1972.

Weber, Max. The Rational and Social Foundations of Music. Carbondale, Ill.: Southern Illinois University Press, 1956. Translated by Don Martindale, Johannes Riedel and Gertrude Neuwirth.

Whitehill, C. D. Application of Flanders' system of classroom interaction analysis to general classroom music teaching. Unpublished doctoral dissertation, University of Maryland, 1970.

Wilson, Bryan R. The teacher's role: a sociological analysis. British Journal of Sociology, 1962, 13, 1-32.

Wilson, Thomas P. Conceptions of interaction and forms of sociological explanation. American Sociological Review, 1970, 35, 697-710.

Wing, H. D. Is musical ability inate? Review of Psychology of Music, 1963, 1, 1-7.

Wing, H. D. Tests of Musical Ability and Appreciation. Second Edition. Cambridge: Cambridge University Press, 1968.

Wold, M. and E. Cykler. An Introduction to Music and Art in the Western World. Dubuque, Iowa: Brown, 1958.

Wolff, P. H. Observations on the early development of smiling. Determinants of Infant Behaviour. Volume II, ed. Foss. London: Methuen, 1963.

Woolridge, Dean E. The Machinery of the Brain. New York: McGraw-Hill, 1963.

Wynne, John P. Theories of Education. New York: Harper and Row, 1963.

Zentner, Henry. A Test for the Validity of Durkheim's Conception of Social Solidarity. Ann Arbor, Michigan: University Microfilms Library Services, 1950.

Zentner, Henry. Sorokin's analysis of time and space. Sorokin and Sociology: Essays in Honour of Professor Pitirim Sorokin. eds. G. C. Hallen and R. Prasad. Moti Katra, Agra-3 India: Satish, 1972.

Zentner, Henry. Profiles of the Supernatural. Calgary: Strayer, 1972a.

Zentner, Henry. Prelude to Administrative Theory. Calgary: Strayer, 1973.

Zentner, Henry. Ideal typification: mensurative and generative. Unpublished essay, available from the author, Department of Educational Administration, University of Calgary, 1976.

Zentner, Henry. Regional social science from the bottom up: a critique. An unpublished paper presented to the Western Canadian Studies Conference, University of Calgary, 1976.